NEXT WEEK: A Look at Electric Heat

AIR CONDITIONING HEATING & REFRIGERATION NEWS
The Newspaper of the Industry
RESIDENTIAL — COMMERCIAL — INDUSTRIAL
November 6, 1961

Issued every Monday at 450 West Fort St., Detroit 26, Michigan
Established 1926
Member, Associated Business Publications — Member, Audit Bureau of Circulations

Vol. 94, No. 10, Serial No. 1,702
Reentered as second class matter October 3, 1936, at the post office at Detroit, Mich., under the Act of March 3, 1879.
Subscription Price, $6 Per Year (U. S. and Canada). Foreign: $10.00 Per Year.
Trade Mark Registered U.S. Patent Office. Copyright 1961, by Business News Publishing Co.

✓ INSIDE THIS ISSUE

ABSORPTION SYSTEM to cool, heat Waco hospital addition.. 9
MOST DISTRIBUTORS endorse parts depot network.....10
LIGHTWEIGHT compressor meets military standards.....11
101 PACKAGED UNITS heat, cool shopping center.....14
NEGATIVE IONS—Favorable effects not substantiated by research, engineers told.....25
TECH CENTER—Testing Laboratories 26
MORE ON MATERIALS...20-21
EDITORIAL 16
OFF THE CHEST.....16
FROM THE FILES.....17
CURRENT LITERATURE....18
WHAT'S NEW 22-23
PATENTS 34

G-E To Broaden Its Cooling, Heating Products, Promotion

LOUISVILLE, Ky. — Extension of its product lines in conventional air conditioning, heat pump, and residential heating equipment; broadening of its advertising activities (including a network radio program); and some unusual promotional ideas involving a change in the approach on incentive trips, mark the 1962 plans of the General Electric Co. Central Air Conditioning Section.

Details of the new products will not be made available until later this year. The new products include at least one type of product which has not previously been in the line, and the addition of new models and refinements in current models designed to enable dealer-contractors handling G-E's central air conditioners to get a broader share of the market for heating, heat pump, and residential and light commercial air conditioning equipment, stated C. B. Ramsdell, marketing manager, and R. D. Roley, product planning manager.

In hearing about the 1962 product and promotional program in convention here, dis-

(Continued on Page 6, Col. 1)

Trane Strike Ends, See Fast Return To Normal Output

LA CROSSE, Wis.—A strike, which began Aug. 21 at the Trane Co. plant here, ended Oct. 31 with union acceptance of a company proposal.

The plant was expected to return to normal production within a week. Trane plants elsewhere were not affected by the strike and their production had continued at normal levels.

Limited production had continued at La Crosse although 2,000 manufacturing employes were on strike.

Settlement came through efforts of the Federal Mediation and Conciliation Service. Contract settlement involved wage increases of nine to 25 cents per hour over the three-year contract period. Increases will average slightly over 16 cents for the three-year period.

Cost of living escalator clause was eliminated. Previous cost of living allowance was added to

(Continued on Page 4, Col. 5)

Chicagoans To Discuss Separate Bid Plan

CHICAGO — A dinner meeting to be devoted exclusively to a panel discussion of "The New Chicago Plan for Separate Bids" will be held at 7:30 p.m. (cocktails at 6), Monday night, Nov. 13 at McCormick Place here, under the general sponsorship of the Chicago Chapter of the Construction Specifications Institute.

Chairman of the meeting is R. G. Burkhardt, consulting engineer and member of the program committee of the Chicago CSI Chapter. Panel moderator

(Continued on Page 4, Col. 1)

Little Space Left for ARI Exposition In Feb.

WASHINGTON, D. C.—Less than 10% of the available space for the 12th Exposition of the Air Conditioning, Heating and Refrigeration Industry remains to be sold, according to an announcement made by H. T. "Hy" Jarvis, president, Recold Corp. and chairman, ARI Show Committee, and George E. Mills, Show Director for ARI, sponsor of the event.

(Continued on Page 7, Col. 4)

Emerson Electric Moves To Acquire White-Rodgers

ST. LOUIS—W. R. Persons, president of The Emerson Electric Mfg. Co., and James A. Rodgers, president of White-Rodgers Co., announced jointly that the boards of directors of both companies have agreed in principle on a basis for the acquisition of White-Rodgers by Emerson.

Final agreement is conditioned upon working out legal technicalities, on approval by White-Rodgers' shareholders, on a favorable tax ruling, on examination by Emerson's management of White-Rodgers' plants, products, prospects, and other relevant matters, and

(Continued on Page 4, Col. 5)

NWAHACA Meets In Chicago Nov. 8-10

CHICAGO — Details of the program for its 48th annual convention, to be staged Nov. 8-10 at the LaSalle hotel here, have been announced by the National Warm Air Heating & Air Conditioning Assn.

Regarding dealer-contractor sessions, it was pointed out that profit building ideas will be offered by every speaker.

The schedule of convention events calls for an association affairs and management session Wednesday afternoon, Nov. 8, for manufacturer members.

(Continued on Page 33, Col. 1)

Ready Plan To Certify Fan-Coil Units

Program To Start In October, 1962

WASHINGTON, D. C. — An industry certification program for room fan-coil air conditioners is scheduled to become operative in October, 1962, it is announced by Frederick J. Reed, chief engineer of the Air-Conditioning & Refrigeration Institute, one of the three sponsoring industry associations.

The other sponsors are the Air Moving & Conditioning Association, Inc., and the Institute of Boiler & Radiator Manufacturers, both of which cooperated with ARI in development of the new "Industry Standard for Room Fan-Coil Conditioners" which provides the basis for the program.

The new standard, designated "Industry Standard 441," and the program have been accepted by the industry through the efforts of the Fan-Coil Coordinating Committee, representing manufacturers of this type of equipment from the memberships of the three sponsoring organizations.

While the program will be administered by ARI, the Fan-Coil Coordinating Committee will continue as an advisory group to consider matters of general policy within the program.

Actual drafting of the stand-

(Continued on Back Page, Col. 1)

Inside Dope

By GEORGE F. TAUBENECK

Learn to live and laugh — thus delay your epitaph

What Time Is It?

Would you believe that a caveman could invent a clock? Fact: he did.

An unidentified prehistoric *homo sapiens,* while watching the sun move across the heavens each day, got the idea of measuring its progress.

He placed a stick in the sand, marked the movement of its shadow and, behold—the first sundial! Ever since that moment mankind has been "watching the clock."

All our time units are based on the sun cycle. The sundial still is as accurate a measure of time as ever, and is in limited use today in formal gardens.

But the sundial has a serious drawback. It depends on clear sunny weather. It cannot tell time at night or on cloudy days.

So "early men" next tried burning ropes, which were knotted or marked at intervals, to tell time. The stop-burn knots marked off the passage of moments during night-time.

Thus fire became another means of counting hours, and days.

Fire Alarms and Water Clocks

Strangely, fire also provided the first alarm clock.

Ancient Chinese couriers, when traveling, would light a stick and place it beneath their toes. When the fire came too close for comfort, it roused them and sent them hot-footing down the road!

Another refinement introduced by the Chinese was the water

(Continued on Page 12, Col. 1)

Is Silver Shield Successful?

Growth In Number of Bureaus and Intensified Education Are Good Signs Despite Some Admitted Problems

What's with the Silver Shield program? Has the string of Indoor Comfort Bureaus which have been set up across the country raised the quality not only of installations of residential heating equipment, but also of merchandising methods for such equipment? In this timely article, Associate Editor Dale Mericle, who has followed Silver Shield's progress closely since its inception, analyzes its present status and probable future.

By C. Dale Mericle

CLEVELAND — Is Silver Shield successful?

Will it continue to grow?

How widespread will it become?

These are obvious questions which undoubtedly occur to nearly everyone watching the efforts of National Warm Air Heating & Air Conditioning Assn. to upgrade the industry.

Answer to the first question, in view of the group's aims, would have to be an unqualified "yes" in this writer's opinion.

Barring unforeseen circumstances, the movement will continue to grow. In fact, it is "snowballing" now, but the speed of its growth is necessarily limited to the manpower available on the NWAHACA staff to assist and guide local dealers.

It is altogether unlikely, and perhaps not even desirable, that there will be a licensed Indoor Comfort Bureau promoting Silver Shield in every city and town in the country, but there's a good chance that the basic aims of Silver Shield will win widespread support, active support, by independent groups and individual dealers — and their customers. In truth, this is already happening.

Why a Silver Shield program anyway?

This is very definitely not a "fast-buck" promotion scheme. It very definitely was not conceived by a "slick operator" who had figured out an angle to clean up quickly and get out.

Rather, it stemmed from a seeming paradox that plagued the heating industry, and others, during the Fifties. In the face of a generally expanding and prosperous economy, there was no marked increase in sales of furnaces. Worse yet, prices were steadily driven down to the point where profit mar-

(Continued on Page 30, Col. 1)

Johnson To Move

CLEVELAND—The Johnson Furnace Co. here, which has been seeking larger quarters, recently became the owner of The Cockshutt Farm Equipment property in Bellevue, Ohio.

The company is in the midst of its busy season and cannot begin to move to Bellevue until after the end of the year. The move will be gradual.

Johnson Furnace manufactures residential heating and cooling units and gas-fired unit heaters.

Ranco To Pay Dividend

COLUMBUS, Ohio—Directors of Ranco Inc. recently declared a quarterly dividend of 20 cents per share on common stock, payable Dec. 15, 1961 to stockholders of record Nov. 30, 1961.

Carrier Readies New Training Courses

SYRACUSE, N. Y.—Carrier Air Conditioning Co. will launch its 1961-62 series of training courses for dealers and distributors with a three-week session on packaged equipment sales engineering starting Nov. 27 here.

A second class will run from Jan. 22 to February 9.

A six-week course in application engineering for applied equipment dealers and distributors will begin Jan. 8, and a two-week course on small applied systems for packaged equipment dealers will start March 26.

Applications should be made through the distributors and will be accepted in Syracuse on a first come, first served basis.

Welbilt Opens Sales Office In New England

MASPETH, N. Y. — Welbilt Corp. has formally opened its first New England regional sales office and showroom at 780 Commonwealth Ave., Boston.

Sol Danzer, New England regional sales manager for Welbilt, will be in charge of the new office and showroom, which will feature all domestic equipment made by the company.

Fedders Names Guyton

MASPETH, N. Y.—Arthur F. Guyton has been appointed a district sales manager for Fedders Corp.'s Central Air Conditioning Div., according to Claude C. Kirk, national sales manager.

Guyton will cover a portion of the Fedders South Atlantic region.

ASHRAE Moves Solar Calorimeter To U. of Florida for Research Use

NEW YORK CITY — The American Society of Heating, Refrigerating & Air-Conditioning Engineers (ASHRAE) announced that it has concluded an agreement with the University of Florida, whereby the latter will continue the study of air conditioning loads due to insulation, carried on by the society in recent years.

The terms of the agreement include the transfer of the society's solar calorimeter with instrumentation and all scientific equipment from its Cleveland Laboratory to the University of Florida in Gainesville.

The solar calorimeter will be housed in a 12 by 12-ft structure, now in the process of being built, at the University's Engineering and Industrial Experiment Station. The co-sponsored project will now be identified as the "ASHRAE-University of Florida Solar Calorimeter."

The university plans to use its new facility for co-sponsored projects concerning solar utilization, such as the study of solar heat gain through glass and other structural components and the influence of shading devices on heat gain.

See related story on page 24.

Although ASHRAE expects to contribute financially to the use of this facility, no specific projects have been finalized at the present time.

For such co-sponsored research programs, an advisory panel consisting of members appointed by the society and by the university will advise and assist the staff. Progress reports on cooperative research will be made at least twice a year.

The solar calorimeter is scheduled to be back in operation, at its new location, before the end of 1961.

This is the second major facility which ASHRAE has transferred to college laboratories this year.

This summer, the society's controlled environment room was moved from its Cleveland Laboratory to the Kansas State Environmental Research Center, newly established by the Kansas State University of Agriculture and Applied Science at Manhattan, Kan.

When this co-sponsored research project begins operation, sometime in 1963, ASHRAE will contribute $25,000 annually for cooperative research for a period of two years.

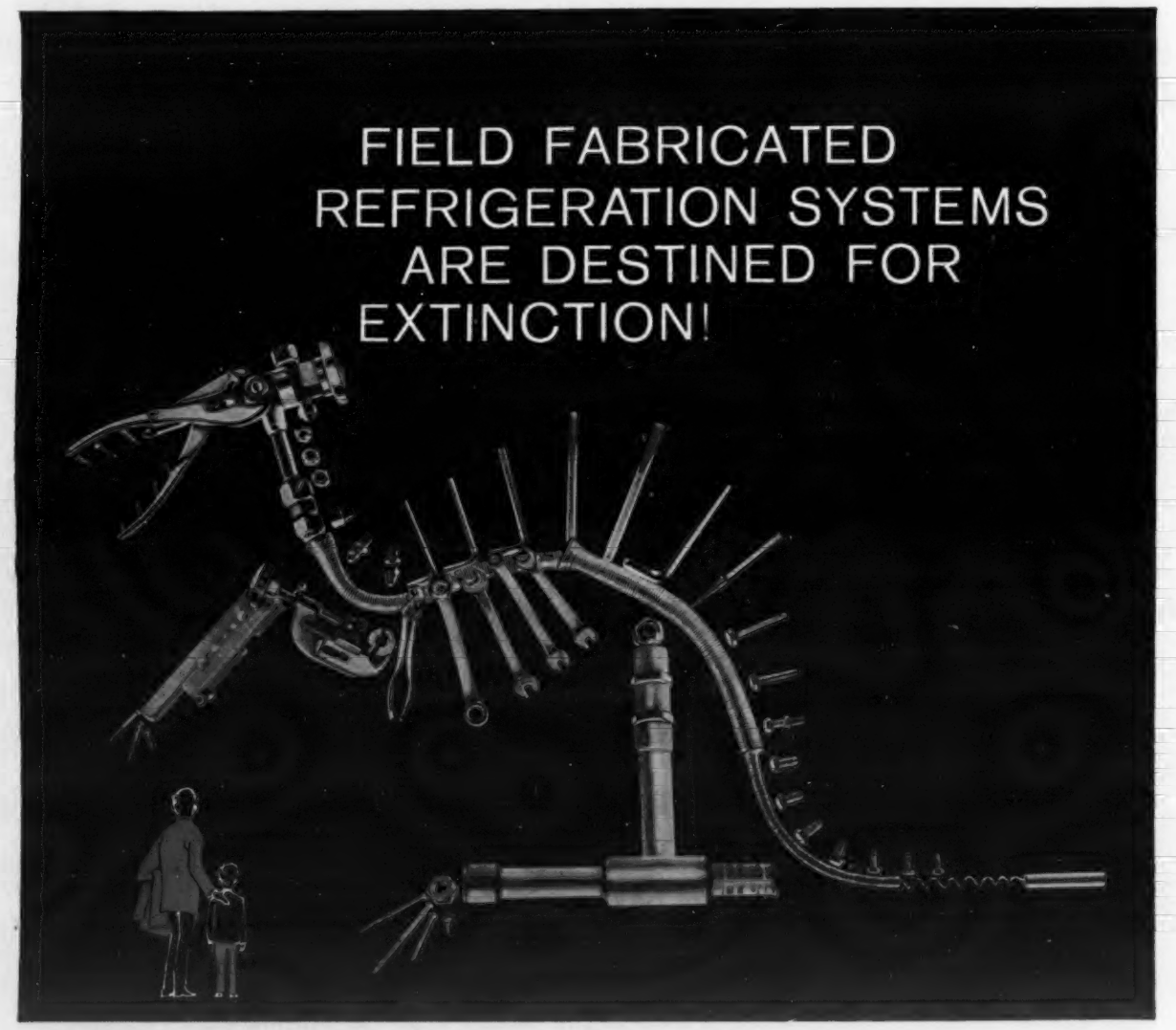
Roland Taylor Leaves Industry for School Post In San Mateo

SAN FRANCISCO — Roland R. Taylor, advertising manager of Fraser & Johnston Co., has resigned from the company and from his trade association activities to re-enter the teaching profession.

He has been with F&J in various capacities since 1945.

Taylor has been active in west coast activities of the National Warm Air Heating & Air Conditioning Assn., and has also been a director of the Heating-Air Conditioning Institute of Northern California. At its meeting Oct. 19 the institute directors accepted Taylor's resignation with regret, presented him with a gift, and adopted a motion in the minutes thanking him for all the work he has done for the industry through the years.

Taylor will be a special coordinator for the San Mateo County Superintendent of Schools at Redwood City and will work in connection with the various schools in the county at the teaching and administrative levels.



***NEW KRAMER THERMOBANK-COMPRESSOR** Systems make field-fabrication as obsolete as dinosaurs and open a new era of opportunity in refrigeration.*

Gone is expensive, time-consuming and inefficient field-fabrication of refrigeration systems and with it your major headaches—shortage of skilled manpower and uncertain costs! Kramer's THERMOBANK-COMPRESSOR SYSTEMS are complete systems (high side and low side), factory engineered, instrumented, assembled, tested and run-in. For outdoor installations, they arrive on the job in all-weather aluminum housings, and "Winterstated" for year-'round automatic operation.

Requiring only connection of refrigerant lines and electrical service, they permit you to handle a much greater volume of business with your present skilled staff. Gone are costly delays for components; you get a complete Kramer System with a single order eliminating reams of paperwork. Kramer's System rating assures accurate predictable performance. Costs are predictable, too, since errors in assembly or labor and material estimates are obviated.

Your customers get a better buy and a better system incorporating Kramer pioneered features including the unique THERMOBANK re-evaporative defrost with all-season Winterstat control for any size job and any temperature level.

To learn how Kramer THERMOBANK-COMPRESSOR SYSTEMS can brighten your profit picture, request Bulletin C 484A.

KRAMER THERMOBANK-COMPRESSOR SYSTEMS

KRAMER TRENTON CO. Trenton 5, N. J.

48 YEARS OF CONTINUOUS ACHIEVEMENT IN HEAT TRANSFER

York Had Good Room Unit Year, Plans Little Change for 1962

YORK, Pa.—"York's room air conditioner business is presently running somewhat ahead of last year, despite the unfavorable weather and despite the condition of the economy at the start of the year," reports Austin Rising, York's vice president and manager of marketing.

"When compared to industry figures, it's apparent York increased its market penetration this year," he said. "And, with inventories about the same as last year, York is going into 1962 with relatively clean 'pipe lines.' "

Rising pointed to York distributors' enthusiastic approval of the company's new "Volkswagen-type" approach — minimum design and appearance change, but major refinements inside for greater capacity and efficiency.

"Originally, we weren't too sure how our distributors and dealers would react," he commented, "but, they agreed with the policy, and we had a good year.

"Naturally, we're highly enthusiastic about next year's prospects," Rising added. "The fine weather in late August and early September not only helped clean out many dealer and distributor inventories, but is expected to stimulate consumers for early 1962 sales."

York's general manager of packaged products sales, R. F. Kelly, reported that York would announced its 1962 room air conditioning program late in the year. He also said York prices are expected to be about the same next year. "Our philosophy, few styling changes from year to year, simply means we can hold our prices at rather steady levels."

Kelly indicated the company's "Magic Mount" installation kit would again be offered in 1962, and York room models will have the same outward appearance.

"We're also ready to introduce two new models in the 20,000-25,000 Btu range," he disclosed. "Eleven models are being dropped, mostly stripped down 'Special' versions of the company's 'Custom' line, leaving 17 models in the York line, from 6,500 to over 20,000 Btu."

Republic-Transcon Eyes Atlanta Plant

BEVERLY HILLS, Calif. — Milton J. Stevens, board chairman, and William P. Lennon, president of Republic-Transcon Industries, Inc., were scheduled to be in Atlanta Oct. 30 and 31, discussing plans for a new Republic plant in the Atlanta area.

Meetings were arranged with banking officials and the Chamber of Commerce.

Stevens stated that he envisages a plant in Atlanta that will employ between 300 and 400 people and do an annual business of about $10 million. The company now has plants in Los Angeles, Portland, Ore., Chicago, Dallas (2), and Erie, Pa. Air conditioners, water heaters, and plastic outdoor signs would be manufactured in Atlanta.

4 Philadelphia Heating Firms Merge To Form Repco Products

PHILADELPHIA — Four firms in the heating equipment industry, all based in Philadelphia, have merged to form the Repco Products Corp., an integrated manufacturer of a complete line of heating equipment.

All American Products Co., Republic Products Co., General Heating Products Co., and W. H. Bunten Co. are the firms which merged to form the new organization.

Repco Products now offers research and development, manufacturing and production facilities, and a nationwide sales and distribution network, it was stated.

The research and development and manufacturing facilities of the new company are headquartered in Philadelphia. Sales offices for the firm are located in Boston, Hartford, New York City, Philadelphia, Baltimore, Richmond, Clearwater, Detroit, Chicago, Salt Lake City, San Francisco, and Seattle.

"Two new products the company manufactures for residential, commercial, and industrial applications are Repco R-700, 7-in. baseboard radiation of a completely new design and the new EV series of fully enclosed oil-fired boilers," the announcement said.

"Under development is a new line of midget gas-fired boilers. In addition to these new products, the company also manufactures furnaces of convector radiation, convector elements, heating coils, and heat transfer devices."

Delco Holds National Sales Conference

ROCHESTER, N. Y. — A three-week national sales conference is being held at the headquarters of Delco Appliance Div., General Motors Corp., Oct. 30 through Nov. 18.

All regional and district sales managers of the division were scheduled to attend the conference for one week each during this period.

John T. Tighe, home conditioning sales manager, is announcing the 1962 sales objectives during the conference. Merchandising plans and programs are being presented by Julian F. Warren, Delco sales promotion and merchandising manager.

Limbach Awarded Deere Contract

PITTSBURGH—Limbach Co. has been awarded a contract in excess of $2.8 million for the mechanical work — heating, air conditioning, and plumbing—on the new Deere & Co. administrative center in Moline, Ill.

The contract covers work on a seven-story administrative building and a three-story products display building, which are the first two of four buildings planned for the center.

Deere & Co., manufacturer of farm implements, had architect Eero Sarrinen & Associates design the center, providing one of the last major projects for the late Saarinen. Mechanical engineer is Burns & McDonnell, Kansas City.

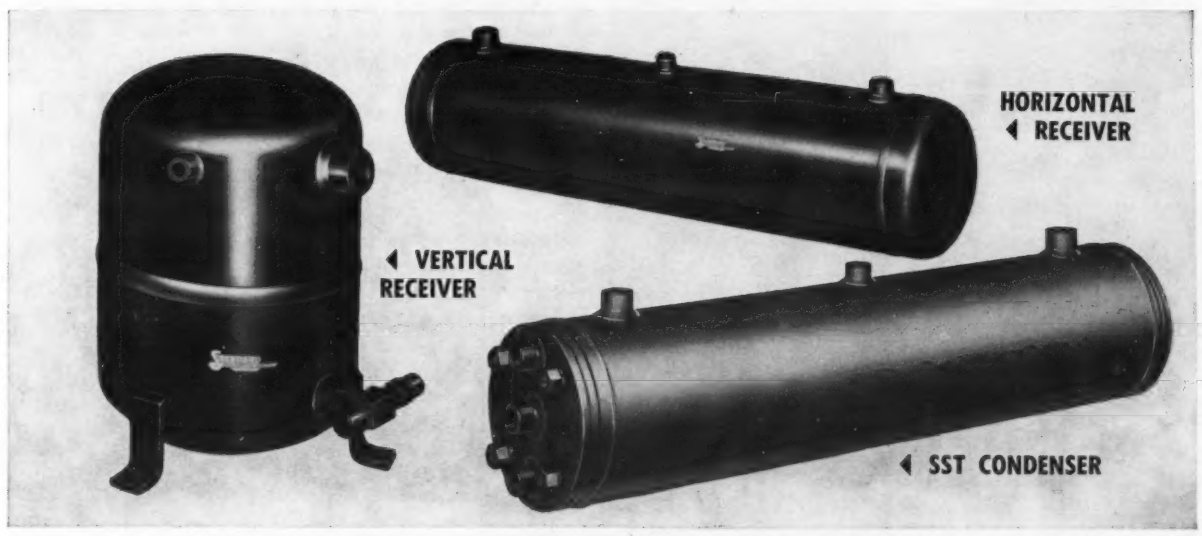
STANDARD

water-cooled

CONDENSERS

1/4 H.P. to 30 H.P.

U.L. or A.S.M.E. tagged



and LIQUID

RECEIVERS

STANDARD CONDENSERS and RECEIVERS are widely known for fine performance and dependability. *Rated capacities under all operating conditions.* Simplified and readable capacity charts available. Used as original equipment by leading manufacturers. Sold thru air conditioning and refrigeration wholesalers everywhere.

Write for our Catalog

STANDARD REFRIGERATION COMPANY

3014 FILLMORE ST.
CHICAGO 12, ILL.

Manufacturers of LIQUID RECEIVERS, SHELL and TUBE, SHELL and COIL, and COUNTERFLOW CONDENSERS

National Distributor for Primore Rotalock Valves

Chicago Plan on Separate Bids--

(Continued from Page 1, Col. 1)
will be Henry J. Couch, executive secretary of the coordinating committee of Mechanical Specialty Contractors Associations of Chicago.

Dinner reservations ($5.50 each) may be made by contacting The Chicago Plan, Room 1612, 228 N. La Salle St., or by calling Couch at FR 2-3826.

The new Chicago Plan, recently endorsed by the Chicago Chapter of AIA, the Chicago Association of Consulting Engineers, and the Builders Association of Chicago (the AGC Chapter) will be discussed by a panel consisting of Edward Matthei, architect; John Dolio, consulting engineer; E. H. Marhoefer, Jr., general contractor; W. A. Kuechenberg, mechanical specialty contractor; and J. C. Sanderson, director of plant properties, Northwestern university. Sanderson will discuss the Chicago Plan from the "owner" viewpoint.

The "new" Chicago Plan for Separate Bids succeeds the original which was published in the summer of 1960, and was developed by a joint industry committee of architects, consulting engineers, general contractors and mechanical specialty contractors, and was subsequently endorsed by each of the organizations involved. This endorsement has been called "truly historic" in that it is said to be the first time in the history of the building construction industry that architects, engineers, and contractors have been able to agree on a program of such depth and scope.

The Chicago Plan was designed to eliminate shopping of bids by the general contractor and peddling of bids by the mechanical specialty contractor. "It does not imply," said the Coordinating Committee statement, "that every general contractor and every mechanical specialty contractor has been guilty of these practices, but it does recognize that more and more of them have been forced to adopt procedures which they abhor, purely from the standpoint of self-defense. The situation has created a fertile field for the 'broker contractor' who, it would appear, is more of an auctioneer than a building contractor."

The essence of the Chicago plan is a recommendation that the architect and engineer establish, in cooperation with the general contractor and mechanical specialty contractors, these points of procedure:

A. Preparation of "separate specification" for each of five categories of work: (1) general construction; (2) plumbing and sewerage; (3) heating, piping, refrigeration, and automatic temperature control systems; (4) ventilating and distribution systems for conditioned air; (5) electrical installations.

B. Inclusion in the "general construction specifications" an estimated percentage of the total cost of the project as represented by the mechanical specialty contracts.

C. Stipulation in the "general construction specification" a requirement that each General Contractor certify that a reasonable and controlling portion of the work included in his contract will be performed by his own labor force.

D. Take "separate bids" for each of the listed categories of work from a specific number of pre-qualfiied bidders.

E. Let a General Contract to the low bidder on General Construction and award contracts, in consultation with the General Contractor, to the low bidders in each of the categories of Mechancial Specialty work.

F. Assign the Mechanical Specialty contracts to the General Contractor by formal notice in writing, with copies to the Mechanical Specialty Contractors concerned.

G. Having first been satisfied as to the General Contractor's financial responsibility, stipulate in the General Contract that each contractor's initial monthly request for partial payment be honored without waiver. Stipulate further that the second and all subsequent requests for partial payments shall be accompanied by waivers for each immediately preceding partial payment. Final payment is to be issued only in exchange for final waivers.

Emerson Electric--

(Continued from Page 1, Col. 4)
Emerson being completely satisfied with the results of such examination.

The terms of the proposed acquisition were not disclosed, other than that it would involve an exchange for Emerson common stock.

Emerson is a major producer of small motors in the United States for a wide variety of appliances, refrigeration, and other commercial and industrial uses. It is a leading builder of lighting fixtures for both commercial and industrial use and also produces shop tools and fans.

The company has an Industrial Electronics Div. and produces a broad range of electronics and missiles for defense in its Electronics & Avionics Div. Its sales for the fiscal year ended Sept. 30, 1961, are expected to exceed $150,000,000.

White-Rodgers' business consists primarily of the manufacture and sale of automatic controls for oil and gas-fired domestic space heating, electrical space heating, domestic gas clothes dryers, water heaters, and commercial refrigeration and air conditioning equipment. Its sales for 1961 will exceed $15,000,000.

The headquarters of both companies are in St. Louis.

Trane Strike--

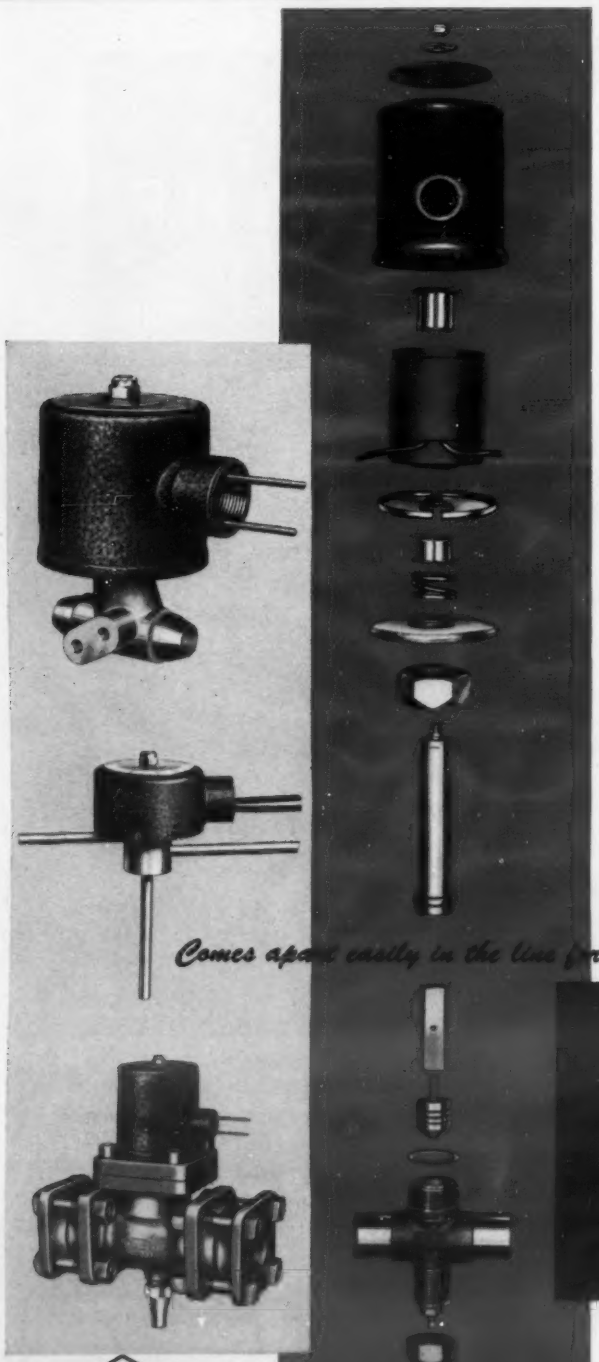
(Continued from Page 1, Col. 2)
the base rate. Improvements were made in pensions, insurance, vacations, and other fringe areas.

At the same time, Trane announced that, because of the strike, consolidated sales and profits for the third quarter fell below those of the same period of 1960.

For the nine months ending Sept. 30, sales were $73,731,406 with a net profit of $3,645,488, the company reported. This compares to 1960 nine month sales of $75,437,719, and profits of $4,488,207.

Third-quarter sales were $22,093,817, and net profits $680,599. This compares to 1960 third-quarter sales of $27,246,160, and net profits of $1,900,412.

Net earnings per share for the first nine months of this year were $1.37, compared with net earnings of $1.69 per share for the same period in 1960.



For Your Protection

SPECIFY • INSTALL

ALCO

SOLENOID VALVES

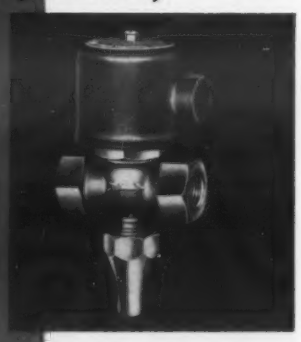
FOR POSITIVE CONTROL

ALCO'S HIGH QUALITY

Guarantees Maximum Life

- Constructed both for hermetic and non-hermetic applications.
- Manufactured of the best grades of corrosion-resistant Materials.
- Alco's Cool, POWER-PACKED coils are moisture proof impregnated.
- Special coils available for high ambients.
- Positive closing with pressure tested seating for POSITIVE SHUT-OFF.
- All MANUFACTURED by ALCO to ALCO'S high Quality Control Standards.

Comes apart easily in the line for cleaning



More than **250** models for every control application:

LIQUID • SUCTION
HOT GAS • WATER
STEAM • AIR

Call your ALCO WHOLESALER, WRITE for Specifications Section 173-61.

ALCO VALVE CO. 853 Kingsland Ave. • St. Louis 30, Mo.

BUY SECURITY • BUY QUALITY • BUY ALCO

8222-2

The one complete line of refrigerant controls: Thermostatic Expansion Valves • Refrigerant Distributors • Solenoid Valves Refrigerant Filter-Driers • Suction Line Regulators • Flooded Evaporator Controls and Reversing Valves

CANADIAN AGENT: A. C. & R. Products Ltd., 2857 Lawrence, E. Scarborough, Ontario.
Excluding the provinces of British Columbia and Alberta.

More Room, Speedier Service

Alter Co. Moves Headquarters to Chicago Expressway Junction Site

CHICAGO—The Harry Alter Co., national wholesale distributor of air conditioning and refrigeration parts and supplies, is now occupying a new main office and warehouse building at 2399 S. Archer Ave. here.

The new headquarters, totaling over 65,000 sq ft of enclosed space, 70% of which is air conditioned, is set upon a two acre site, and includes parking space for 50 cars. The location on S. Archer Ave. is on Chicago's near south side, at what will be the exact junction of of the soon - to - be - completed South Expressway and the future Southwest Expressway, thus making it accessible from all parts of metropolitan Chicago. This location will also aid in the speedy supply of the company's other branches in the city.

"We believe this modern plant to be the world's largest distribution center exclusively devoted to refrigeration supplies," stated Irving Alter, president of the company. "The planning and carrying out of this project reflects not only our confidence in the general economy, but also our profound assurance regarding the future of the refrigeration and air conditioning industry. Needless to say, we are equally optimistic about our own position within that industry."

The general office — buying, accounting, executive, and others, utilize 7,000 sq ft in the center of the building. Separate dial intercom, teletype, and special order taking apparatus add to the modern communications system in this section.

The operating facilities — shipping, packing, receiving, occupy about 9,000 sq ft and incorporate the latest methods of material handling. Six truck docks serve this department. A third area contains the 100-ft long counter for local customers and a large display space with some 600 linear ft of product display.

The working inventory is maintained in a 15,000-sq ft section in which are stacked 5,000 triple-shelved bins filled with the more than 12,000 different items stocked by the Alter Co. And finally, there is a vast surplus and bulk storage area covering more than 30,000 sq ft.

The Harry Alter Co. maintains additional warehouses and offices in New York, Dallas, and Atlanta. A pioneer in the supplies wholesaling field, and in the mail order end of the business, it ships supplies throughout the U. S. and to most nations of the Free World.

GAES Chapter Meets In Newark, Nov. 13

NEWARK, N. J. — Chuck Thorpe of York Div., Borg-Warner Corp., and president of the Eastern Chapter, Gas Appliance Engineers Society, reports that the next meeting of the GAES will be held on Monday evening, Nov. 13, at the Robert Treat hotel here.

Engineers interested in membership are urged to contact Membership Chairman Roy Shear of General Electric Co., 2231 E. State St., Trenton, N. J.

Says Mfrs., Builders Need To Communicate

ROCHESTER, N. Y. — Communication between manufacturer and builder is the number one problem in the home building industry, in the opinion of Paul H. Rutherford, general manager of Delco Appliance Div., General Motors Corp.

Rutherford was one of the panel of speakers at the New York State Home Builders' Association Conference, held Sept. 27 through Oct. 1 at the Concord hotel, Kiamesha Lake.

The manufacturer, Rutherford said, "must know what the builder and his customers want; therefore, he must listen to the builders and develop products to meet the desire of the customers and builders."

But since communication is a two-way street, he suggested that the builder in turn must keep an open mind toward new products developed by the manufacturers.

LUCAS CAP. TUBE CLEANER

$19.65

Get wise! Often does in minutes what used to take hours.

AT YOUR FAVORITE WHOLESALERS OR

Southgate Tool & Die Co.,
P. O. Box B-1097, Southgate, Mich.

NEW G-B DUCT WITH WELDED ALUMINUM CASING

gives you air distribution, thermal insulation, sound absorption, and vapor barrier—all in one economical product!

New G-B Duct is made entirely of high-density fiber glass insulation enclosed in a hardened aluminum casing and sealed by a unique welding process. It is the one product that fulfills all these requirements:

- *meets strictest fire codes for commercial heating and air conditioning*
- *gives higher thermal efficiency than that of conventional duct wraps and liners*
- *reduces noise as effectively as 1½" thick duct liner*
- *cuts installation cost as much as 50% . . . each 6' section combines thermal insulation, sound absorber, and vapor barrier in one lightweight, ready-to-use air duct*
- *provides essentially the same air friction coefficient as bare sheet metal*

Before your next duct job, it will pay you to thoroughly investigate G-B Duct. Write for detailed information today.

gb®

GUSTIN-BACON Manufacturing Company

218 W. 10th St., Kansas City, Missouri

G-E Expands Cooling, Heating Lines--

(Continued from Page 1, Col. 3)

recently appointed general manager of the section, that sales this year were up 10% and heat pump sales up 50% with a particularly strong surge being shown in the third quarter.

Big new "plus" feature of the advertising and promotion campaign, as described by R. A. Sestero, advertising and sales promotion manager, will be a five-day-a-week, 52-week dinner-time news program with Frank Singiser over some 400 stations of the Mutual Broadcasting Network. Commercial will be handled by Bess Meyerson, former Miss America and TV and radio personality; and Leo Durocher, coach of the Los Angeles Dodgers, who has also been engaged in network activity in the past few years.

In these broadcasts, Sestero explained, the middle one-minute commercial will be used to give the over-all story on G-E central air conditioning to the entire network audience. The closing 30-second commercial will be available for use by the local G-E outlet, with the message tailored to his particular audience.

The incentive sales trip program for dealers will vary considerably in both the nature and operation of the trip. Where formerly the factory headquarters sponsored and monitored a trip to one pre-selected spot, each distributor this year will work with his own dealer incentive fund and will have a choice of six trips — Chicago, New York, Las Vegas, Miami, New Orleans, and San Francisco.

This dealer incentive fund will be part of a "new look" advertising-promotional incentive program, whereby on Jan. 1, 1962, the factory will make available advertising, promotion, and incentive funds for use by each distributor.

In addition to the usual newspaper, radio and TV, direct mail, billboard and car card, local shows, and telephone directory advertising, G-E is planning an "unusual" promotion aimed at getting builders to offer year-round air conditioning in new project homes on a new option basis. This program, which is said to have a new type of appeal for both the builder and the prospective homeowner, will be announced later this year.

To Encourage Dealers To Hold 'Cool Air Clinics'

In 1962, G-E will encourage all of its dealers to try the "Cool Air Clinics," which is primarily a plan of "educating" the public on present-day air conditioning systems. This year some 25 key dealers tried this program, announcing to the public that their stores would be open until 9 p.m. over a two-day period, with personnel in attendance who would discuss, without obligation, any problem or question in the minds of the public relative to air conditioning. Some dealers reported as many as 10 sales made during these two-day clinics, and large numbers of prime prospects obtained for follow-up.

How Clinic Operates

A "Cool Air Clinic" on a larger scale that was an outstanding success was the one sponsored by J. C. Pressly & Co. in Tampa, Fla. (reported in detail in the Oct. 9 issue of the NEWS). Said Mel Cole, manager of G-E air conditioning sales for the state of Florida:

"The dealer rented the Tampa city coliseum and advertised the time, date, and place in the newspaper and on radio. Total expenses for building and advertising was less than $1,000. While he provided some entertainment it was obvious that more than 1,200 people who attended this affair came to hear a discussion of 'how to buy central air conditioners.'

'Results Were Fantastic'

"Results were fantastic. During the month following this promotion, he sold 27 contracts traceable directly to his promotion. One contract was for a commercial installation of 23 tons and his profit on that order alone more than paid for the entire program."

Cole also discussed sales training programs for other factors in making the air conditioning sale: these included dealer salesmen, builders, real estate salesmen, utility employes, and FHA and VA inspectors. He emphasized the need for putting a "professional" stamp on the whole approach to dealer salesmen training particularly, with clearly specified hours and types of instruction, and the awarding of some recognition for those who complete their studies satisfactorily.

More Varied, Versatile Financing Plans

More varied and versatile financing plans available through General Electric Credit Corp. were outlined by J. J. Heffernan, formerly advertising manager for the Central Air Conditioner Section, and now an executive with GECC. Heffernan explained four new phases of financing assistance:

1. Commercial and industrial installations will henceforth be financed as a separate category. Project financing will be made available, whereby GECC will accept contracts covering the

YOURS
FOR THE
ASKING...
over 80,000
prop blade
combinations!
...and all at standard production run prices too. No expensive engineering or tooling costs to absorb. You name the application; electronics, heating, cooling, general appliances and Meier has a quality built propeller blade for it. Let Meier evaluate your product's impeller requirements in their own testing laboratory (no obligation, of course) and recommend the most efficient, economical prop blade you can use. Sample blades on request.
Meier
DIVISION
THE LAU BLOWER COMPANY
3525 East Washington Street • Indianapolis 7, Indiana

entire electrical content of a commercial and industrial project, including the cost of installing air conditioning and all auxiliaries pertinent thereto, with terms up to 7 years, or even longer under special circumstances.

2. Installations can be financed for "shell houses" (wherein the homeowner buys only the bare "shell" of a new house and completes it himself).

3. GECC will entertain proposals for financing of major service operations or service contracts.

4. Lease plans will be more versatile, and will include plans for newlyweds, and "senior citizens."

Home Heating Market

A concentrated attack on the home heating market was suggested by Frank Gleason, a GECC executive, who pointed out that surveys have shown that more than two-thirds of homeowners have no idea of first and operating costs of new heating equipment.

A new phase of the Medallion (all-electric) home program will be in the promotion of the Bronze Medallion "Plus" home, which means essentially a home with whole-house central electric air conditioning offered on a no-option basis, declared John St. Lawrence, manager of program planning for G-E's R.M.D.O. program.

"Both the builder and the public are getting the idea that whole-home air conditioning is the heart of the modern new home, and that it is rapidly replacing the all-electric kitchen as the most desired 'built-in' feature," said St. Lawrence.

Those promoting the Medallion home program will work with increased funds next year, he indicated, and a big push will be placed behind utilities with winter load peaks to promote hard on the concept of the all-electric year-round air conditioning system.

Distributors were told that they can recover a share of their service operations expenses through greater sales of replacement parts. Studies showed that distributors who had increased their parts sales to about double the usual amount, could increase their product service profit by as much as 58%.

Makes Replacement Parts More Widely Available

G-E has opened up an avenue for greater replacement parts sales by making genuine Central Air Conditioning Section replacement parts available to anyone who may want them, and furthermore, will actively promote the sale of such parts.

"Don't run an exclusive club, sell renewal parts to all who might need them," W. F. R. Karsten, manager of product service, told the distributors. "Remember, replacement cycles and replacement compressors are big-ticket items."

Another aid in this program is a new condensed "most commonly used" listing of parts. With this listing is a guide to "what control and what motor is used with what model air conditioner" to make possible ready identification of the proper model. Along with this, there has been a "telescoping" of replacement components, so that in blower motors, for example, 40 blower motor models are now replaceable by 12 motor types.

Karsten also urged the distributors to "sell" their dealers on the value of selling service maintenance contracts, particularly in the years immediately following the first year of full warranty coverage. Service contracts are important not only as sources of revenue for the dealer and as a means of assuring customer satisfaction, but also because they will reduce compressor and system failures, and thus reduce in-warranty returns.

"Heaven protect us from the dealer who says 'I haven't gone back to a job in years.' That dealer is going to have a high percentage of failures."

A high spot in the distributor meeting were discussions by some dealers and distributor personnel of how they successfully used unusual ideas and aggressive promotion efforts to achieve continued improvement in the sales of unitary air conditioners. The dealers were Alex Einikis, Air Filter Heating & Cooling Co., Gary, Ind.; John McNeil, McNeil - Moore Co., Birmingham, Ala.; George Holmes and L. G. Mason, Air Engineers Co., Birmingham, Ala.; Frank Hettinger, Hettinger & Shuck Co., Louisville, Ky.; and Mel Knust, Dean Heating & Air Conditioning Co., Omaha, Neb. (This will be covered in more detail in a later issue.)

For Your Reprint Copy

"Emergency Diagnosis, Repair of Hermetic Unit Electric Components," by John L. Zant, mail this ad with your name and address to: Air Conditioning, Heating & Refrigeration News, 450 W. Fort, Detroit 26, Mich.

Only 25¢ each.

ARI Exposition--

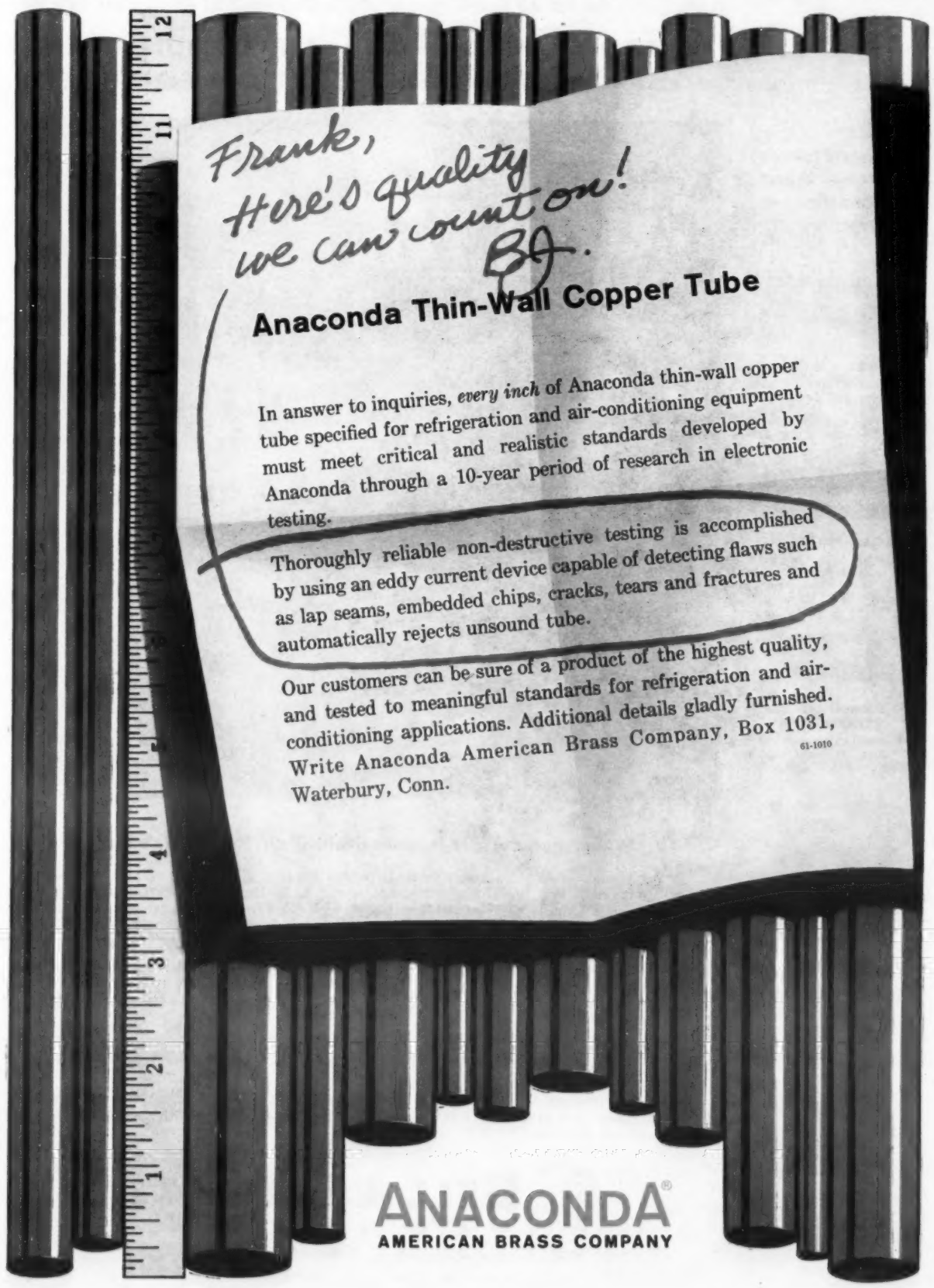
(Continued from Page 1, Col. 3)

"While approximately 91% of the available space had been allocated as of the end of October," said Mills, "there are still some most attractive exhibit spaces available, due to the fact that some of the layout, and the entrances, have been rearranged to creat more desirable spaces, and inquiries about, and sale of space, remain active.

The exposition, scheduled for Feb. 12-15, 1962 at the Great Western Exhibit Center, Los Angeles, marks the first staging of a national, industry wide event in the Far West. As a result of this, plus the fact that exhibitors of heating equipment are coming into an ARI show in some numbers for the first time, about 45% of the approximately 200 exhibitors who have taken space were not represented in previous ARI shows.

Because of this and because a number of exhibitors are companies headquartered in the western part of the country who have not exhibited before, plus the fact that many exhibitors at previous shows had never shown their wares on the Pacific Coast, information reaching Exposition headquarters indicates that a wider range of heating and air conditioning products and components will be on display than at any previous Exposition.

Many other industry associations are planning meetings during Show Week—including the Air Conditioning & Refrigeration Wholesalers association, National Warm Air Heating & Air Conditioning Association, North American Heating & Air Conditioning Wholesalers Association, Refrigeration & Air Conditioning Contractors Association, the Refrigeration Service Engineers Society, and the Western Air Conditioning Industries Association.


Frank,
Here's quality
we can count on!
BJ.
Anaconda Thin-Wall Copper Tube
In answer to inquiries, every inch of Anaconda thin-wall copper tube specified for refrigeration and air-conditioning equipment must meet critical and realistic standards developed by Anaconda through a 10-year period of research in electronic testing.
Thoroughly reliable non-destructive testing is accomplished by using an eddy current device capable of detecting flaws such as lap seams, embedded chips, cracks, tears and fractures and automatically rejects unsound tube.
Our customers can be sure of a product of the highest quality, and tested to meaningful standards for refrigeration and air-conditioning applications. Additional details gladly furnished. Write Anaconda American Brass Company, Box 1031, Waterbury, Conn.
61-1010
ANACONDA®
AMERICAN BRASS COMPANY

Noland Credit Extends 'Ad Bucks' Program Indefinitely for Contractors

RICHMOND, Va. — The Noland Credit Co.'s "Ad Bucks" program—introduced last January to the plumbing and heating industry—has been indefinitely extended because of popular demand, the company announced.

More than 4,000 contractors in the southeast were notified of the extension in a message from John Clark, general manager of the credit company. Giant-size telegram announcements were mailed to the contractor group.

The "Ad Bucks" extension means that NCC will continue to grant contractors a half-cent of "Ad Bucks" for every dollar of unpaid cash balance they place with the credit company. For example, $50 in advertising funds would be earned by $10,000 worth of contract business.

While the first phase of the "Ad Bucks" program officially ended Sept. 30, contractors with unused "Ad Bucks" checks will still be able to utilize them in the novel advertising program, Clark announced.

New "Ad Bucks" earned also can be applied immediately to various advertising programs, he said.

"In general, the plan allows contractors to increase their advertising at little or no cost as sales expand," it was stated.

"Contractors can apply 'Ad Bucks' checks to pay for stepped-up manufacturer co-op advertising, reducing their share in this kind of newspaper promotion to as low as 25% of total cost.

"They can also reduce costs of co-op advertising on radio. 'Ad Bucks' can be used for up to half the cost of radio advertising, with manufacturer shares reducing the contractors cost for the balance to small percentages, and even to zero."

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

Revere Names Young

NEW YORK CITY—William S. Young has been appointed district manager of the Grand Rapids, Mich., sales office of Revere Copper & Brass, Inc. He has been a salesman in that office since 1947.

Gas-Fired Central Residential Heating Sales for August Up 23% Over July

NEW YORK CITY—Factory shipments of gas-fired residential central heating equipment in August totaled 127,172 units, 23% more than the 103,467 pieces of heating equipment dispatched the previous month, the Gas Appliance Manufacturers Association reports.

The August total included 94,500 gas-fired furnaces, 18,072 boilers, and 14,600 conversion burners.

Combined shipments in the three types of central heating equipment in August were 1.7% behind the 129,341 units reported for August a year ago, and the eight-month combined total for this year, 726,918, approximated last year's 727,062.

Edward R. Martin, GAMA's director of marketing and statistics, said the gas furnaces sent to market in August numbered 2.5% less than the 96,900 furnaces shipped in August of last year. In the first eight months of this year, 570,300 furnaces have been dispatched by the manufacturers, 0.7% more than the 566,500 units reported for the same period of 1960.

Gas boiler sales in August amounted to a 9.9% improvement over the 16,441 boilers shipped in the same month of last year. The eight-month total for this equipment, 91,918, was 6.8% more than last year's comparable figure, 86,062.

Conversion burner shipments in August were 8.8% less than the 16,000 units sold in August, 1960. The eight-month totals for this equipment were 74,500 last year and 64,700 this year, a 13.2% decrease.

August and eight-month shipment totals for other types of gas heating equipment:

Vented recessed wall heaters—August shipments amounted to 30,700 and the eight-month total was 202,800, down 8.4 and 8.9%, respectively, from last year's comparable 33,500 and 222,500.

Room heaters and other types of gas direct heating equipment—The month's sales accounted for 128,900, a decline of 23% from August, 1960 amount, 167,400. This equipment's eight-month totals were 715,900 last year and 576,600 this year, a 19.5% decrease.

Gas floor furnaces—This year's totals, 10,300 units in August and 40,800 units in the eight-month period, were down 12.7 and 14.6%, respectively, from the year ago amounts, 11,800 and 47,800.

Gas unit heaters and duct furnaces—Sales of this equipment, which is used primarily in commercial and industrial installations, were up 1.5% in August, when 13,300 units were dispatched. The August, 1960 amount was 13,100. In the first eight months of this year 92,800 units were sold, 3.7% less than last year's 96,400.

The GAMA report is based on a monthly survey of manufacturers who account for a majority of the output in each category, and their responses were expanded to show national shipment estimates.

M-PAK MODULAR PACKAGES... A NEW ADDITION TO B&G® AIR CONDITIONING AND REFRIGERATION EQUIPMENT

A COMPLETE LINE OF REFRIGERATION AND AIR CONDITIONING COMPONENTS

B&G CONDENSERS
Lighter, more compact units, featuring quiet, vibration-free operation, uniform gas distribution, cleanable tubes and higher operating efficiencies.

B&G EVAPORATORS
Featuring non-slugging design...tube bundle proof against freeze-up damage ...positive oil return.

B&G SUCTION LINE HEAT EXCHANGERS
Aid thermal expansion valve operation, prevent liquid slugging.

B&G COMPRESSORS
Precisely engineered for vibration-free operation with all the advantages of "open" units. All units have *one* bore —a few interchangeable parts service them all.

B&G CENTRIFUGAL PUMPS
A full range of *quiet* pumps for refrigeration and air conditioning systems.

Modular packages increase availability...speed-up delivery

In its M-Pak Modular Packages, B&G presents a new advance in efficiency designing of air conditioning and refrigeration equipment. M-Pak units are built around five basic sizes of open-type compressors. Factory-stocked motors, condensers, evaporators and controls can be added to these basic units to make a comprehensive line of "packages" of from 7½ to 150 tons.

1. For example, motor compressors are produced by adding a B&G-built motor to a B&G basic compressor. **2.** Further addition of a B&G condenser and a standard base makes a condensing unit. **3.** Addition of evaporator and control panel results in a package liquid cooler.

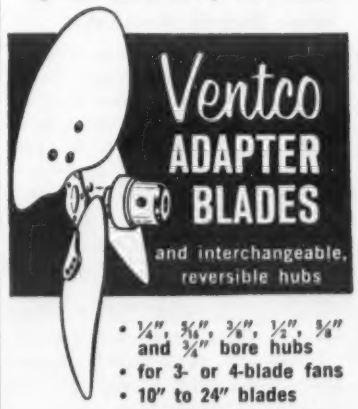
All major components of M-Pak units are designed, manufactured, and guaranteed by B&G...*one* responsibility for the entire package. This, we believe, is an exclusive feature.

B&G also makes a complete line of refrigeration and air conditioning evaporators, condensers and centrifugal pumps—with many commonly used sizes available for immediate shipment from factory stock.

BELL & GOSSETT COMPANY
Dept. GW-47, Morton Grove, Illinois

Canadian Licensee: S. A. Armstrong, Ltd., 1400 O'Connor Drive, Toronto 16, Ontario

Reduce fan blade stock up to 75% with versatile



- ¼", 5/16", ⅜", ½", ⅝" and ¾" bore hubs
- for 3- or 4-blade fans
- 10" to 24" blades
- clockwise or counter
- precision engineered
- priced for profit

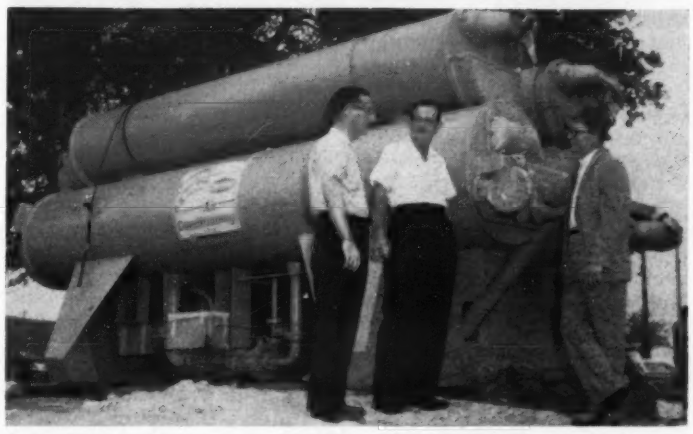
Ventco, Inc. FAirfax 3-9181
1210 Tuam • Houston 4, Texas

Absorption System To Cool, Heat Waco's New Hillcrest Hospital Addition

WACO, Texas—Two 200-ton Carrier absorption water chillers, operated by steam from gas-fired steam boilers, will air condition the 139-bed addition to the Hillcrest hospital here.

The chillers were installed recently in the basement.

According to Jim Wallace, Lone Star Gas Co. regional utilization engineer, the absorption air conditioners have more capacity than necessary to air condition the new addition. The excess capacity will be used to cool spaces not presently air conditioned in the existing building and to replace a portion of the existing electric cooling systems.



DISCUSSING the lowering of the 200-ton absorption water chillers into the basement of the Hillcrest hospital addition are (l. to r.) Jake Gandler, project engineer for Jacobs-Cathey Co.; Kenneth Easterwood, architect; and Jim Wallace, regional utilization engineer for Lone Star Gas Co.

Four-Pipe System Allows Heating, Cooling At Same Time

The air conditioning system was designed by William K. Hall, Jr., consulting mechanical engineer of Dallas. It is a four-pipe system with separate hot water piping for the heating and separate chilled water piping for the cooling. The conditioning problems existing in the hospital required that both the heating and cooling be operated at the same time during most of the year.

There will be 166 areas in the hospital with completely independent temperature and humidity controls. In many of these areas electronic filters are utilized. The system is controlled chiefly by pneumatic controls.

Construction of the new $2,350,000 addition to the hospital began in the spring. The new wing will be five stories tall. It will contain a new central supply facility, laboratory, X-ray facilities, coffee shop, and new obstetric facilities including labor and delivery suites and nurseries.

The new wing is to be added to the front of the present hospital building. It will extend forward in a modified V-shape with red brick construction. It will give Hillcrest a total of 300 adult beds and 60 bassinets.

Features of Addition

The new addition to the hospital will feature the following: a children's division for 38 patients, lobby, coffee shop, conference rooms, and chapel on the first floor; a central service area for the entire building and a pharmacy in the basement; and an audio-visual nurses call, central communications, a TV set, and piped-in music in every room.

The architects, Easterwood & Drennon of Waco, designed the foundation and the addition so that five stories may be added to the addition without altering the present structure or mechanical facilities.

Oxygen is to be piped into all rooms in the addition from a central storage system.

For Your Reprint Copy

"Short, Short Course In Air Conditioning Fundamentals." By D. C. Schaffer. Mail this ad with your name and address to: Air Conditioning, Heating & Refrigeration News, 450 W. Fort, Detroit 26, Mich.
Only 25¢ each.

Fedders Names New Central Cooling, Heating Distributors

MASPETH, N. Y.—The Dan H. Willis Co., Akron, Ohio, and the Pan Co., Casper, Wyo., have been appointed distributors for Fedders Corp.'s central air conditioning division, according to C. C. Kirk, division national sales manager.

Both firms will handle all Fedders central air conditioning and heating products in their respective trading areas.

In other central division distributor changes, Kirk noted that Colonial Plumbing Corp., Albany, N. Y., has been named to succeed Hudson Valley Asbestos Co.

Paul Geiseman Heating & Air Conditioning Co., Peoria, Ill., has been named to succeed Yeomans Distributing Co. Both Hudson Valley and Yeomans will continue to distribute Fedders room air conditioners, Kirk said.

In another change, Willis & Co., Cleveland, has been named to succeed Northern Ohio Appliance Corp. Willis & Co. is headed by Donald M. Willis, president.

Cool Alabama Church

BIRMINGHAM, Ala.—A chill-hot water job was chosen for the air conditioning of the new $200,000 Valley Christian church recently opened in this city.

Installed by Steagall & Co., Inc., the installation consists of 15-ton and 10-ton Carrier equipment with dual controls; also, a 7½-ton package job to condition the offices when the sanctuary is not in use.

The various Sunday School rooms are served by McQuay "Seasonmakers."

In The Lead With Ucon® Refrigerants

"Fustest with the mostest" is Ucon Ike's history thus far, as witness the pioneering of the ring-top refrigerant cylinder, introduction of the handwheel cylinder valve, and instant cylinder deposit refunds . . . all important firsts in packaging and convenience.

And being in the lead is something Ucon Ike and the friendly folks he represents, firmly intend to *continue*. When you *really* need something, *we'll deliver* – whether it be in packaging conveniences or helpful service.

Our promise: being on our toes to meet *your* every on-the-job refrigerant need.

For the most compact and *convenient* line of refrigerants . . . See your Ucon Refrigerants wholesaler.

Ucon Refrigerants are manufactured by
UNION CARBIDE CHEMICALS COMPANY — Division of Union Carbide Corporation
270 Park Avenue, New York 17, N. Y.

Exclusive Sales Agent to Air Conditioning and Refrigeration Wholesalers
ANSUL CHEMICAL COMPANY, Marinette, Wisconsin

Ucon is a registered trademark of Union Carbide Corporation

UNION CARBIDE product Ucon® refrigerants — exclusive sales agent ANSUL

Most Distributors Endorsing Parts Depot Network, Airtemp Reports after First Year

In their attempts to provide more reliable and efficient service, manufacturers are re-evaluating their service policies, restudying their record of performance. Equipment producers are both moving toward and away from central service; they are experimenting with authorized service agencies, both independent and captive.

To keep our readers cognizant of major activity along these lines, the NEWS reports on specific company policies and decisions which have a bearing on service. This is such a report.

DAYTON—Chrysler Airtemp officials are happy with the results of a nationwide network of parts depots which they inaugurated in March, 1960.

"We had a difficult selling job, but now most of our distributors are endorsing the parts depots," reports Dave Lile, service parts manager.

Originally, Chrysler established 13 parts depots in March, 1960, to sell replacement parts to distributors and their dealers, independent service companies, contractors, and industrial users. Now there are 15 depots located in Washington, D. C., Atlanta, New Orleans, Detroit, Chicago, Kansas City, Phoenix, Dallas, Los Angeles, Dayton, Houston, Indianapolis, Miami, and New York, which has two depots.

Prior to the depots, each Chrysler Airtemp distributor ordered parts from the Dayton factory and in most cases maintained an extensive—and expensive—parts inventory.

Why Independent Depots Were Established

The decision to switch to independent depots was made for the following reasons, Airtemp relates.

1. Faster delivery of parts to customers.
2. A central location in major trading areas which will become familiar to distributors, contractors, and independent servicemen as the headquarters for Chrysler parts.
3. Lower freight costs to the dealers, since all parts will be F.O.B. from the depot, not Dayton.
4. Lower investment for parts inventory by Airtemp distributors and dealers, who will have a stocked depot nearby.
5. Depots can stock parts according to the actual sales requirements in their market.

First Reaction Was Less Than Enthusiastic

"Many of our distributors were less than enthusiastic when we made the change," Lile admits. "They felt they would be losing direct contact with the factory, and many were reluctant to make any change.

"We still have a few distributors who are holdouts, but the majority are very happy with the depot plan. The service they receive has surprised them."

C. T. (Tap) Allen, manager of the Certified Parts and Service Co., in Atlanta, asked for some opinions of the distributors his depot was servicing. Below are some of the replies:

"Frankly we have been amazed at the promptness and the correctness of your shipments . . ." J. T. Fraker, Fraker Heating & Equipment Co., Inc., Knoxville, Tenn.

"It makes us feel very good when . . . we can tell the customer we can get the necessary parts out of Atlanta overnight thus making them even more pleased with their Chrysler equipment." Mrs. Myrtle Winter, Southern Blow Pipe & Roofing Co., Chattanooga, Tenn.

"Your knowledge of parts, nomenclature and service problems far surpasses our former experiences." J. M. Pinnell, Pinnett Heating & Air Conditioning, Inc., Augusta, Ga.

"It is a pleasure to handle equipment when you know parts are immediately available." George F. Taylor, Taylor Air Conditioning and Heating, Moultrie, Ga.

"Frankly, we wondered if a private company would have enough interest in keeping our equipment going to give us good service. Our first thought was only the manufacturer would be concerned enough to really stay in there behind us in the emergencies that arise . . . (but) . . . you and your company have given us the best service we have ever experienced." Cecil B. Wright, Central Electric Co., Rome, Ga.

"After talking with Mr. Hope, Mr. Padgett, and Mr. Schneider, we all concur that the arrangement has worked very much to our advantage." W. H. Gill, Horne-Wilson, Inc., Tampa, Fla., Branch.

"I have nothing but the highest compliments to pay you on the efficiency in regards to processing orders. . . ." George Taylor, Wimberly & Thomas Hardware Co., Inc., Birmingham, Ala.

"Your prompt cooperation has saved us money and time, besides making our customers happy." H. L. Brown, Jr., Brown & Son, Electric Co., Inc., Macon, Ga.

"We believe the parts depot move will give dealers better and quicker service." Roberta S. Roy, Temperature Control, Inc., Knoxville, Tenn.

"We have lost no sale or failed to take care of a customer due to your not having any item on hand when we needed it." M. M. Shapir, Condition Air Co., Columbus, Ga.

One Rome, Ga. dealer compared the service of Certified Parts & Service Co. with four other major manufacturers and rated it "the best service we have ever experienced."

Another letter, from the service manager of a competing manufacturer's branch, expressed "our appreciation for the many times you have rendered service to us this cooling season and the prompt processing of our orders."

"These depots are giving our present market areas adequate service and we do not anticipate any additions in the near future," Lile states. "This is one change that has been mutually beneficial to Chrysler, our distributors, and our dealers."

Mr. Jeff Gilham, Mechanical contractor for Central National Bank, Richmond, Virginia, says:

"Honeywell gave this electric expert service

Mr. Jeff Gilham, at left, in the main area of the Chamberlayne Avenue Branch, Central National Bank. With Mr. Gilham is R. Branson Hobbs, Assistant Cashier and Manager of the branch.

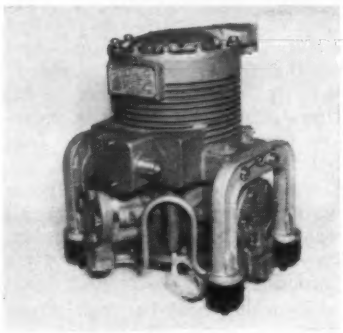
New Lightweight Compressors Meet Military Standards

CLEVELAND—Reporting details on Great Lakes Mfg. Corp.'s new line of compressors, T. G. Crider, staff engineer, said the company is now ready to produce limited production quantities for the military equipment manufacturers.

The compressors were developed primarily to fit the new lightweight family of air conditioners required by the Military, he pointed out.

Great Lakes expects to increase its production facilities to handle up to approximately 20 compressors per hour in the foreseeable future, Crider told the NEWS.

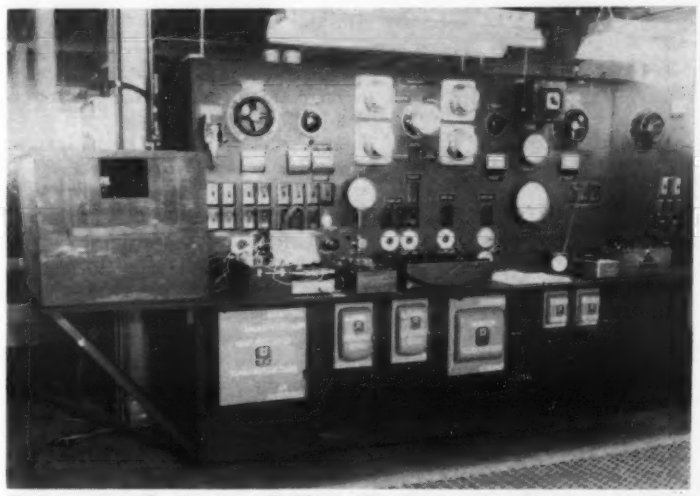
Late in August, the first phase of the company's program consisting of six models was nearing completion of qualification tests to meet the U. S. Army Corp. of Engineers requirements.



MILITARY MODEL #422H-6 lightweight aluminum compressor typifies the family of models produced by Great Lakes Mfg. Corp.

Specific models are available, 60 or 400-cycle, in 115, 208/220, 208/220/416/440-volt power. This group covers capacities from ½ through 2½ tons at air conditioning operating temperatures established by both military and commercial requirements, Crider noted.

The company's newest program adds five additional models, both 60 and 400-cycle, 208/220 or 208/220/416/440-volt, three-phase power. This group ranges in capacity from 3 to 8 tons. One model uses Refrigerant-12, the rest R-22.



ON THIS government-approved testing arrangement, Great Lakes obtains data which must be included in its formal engineering reports to the military. Such reports include: motor performance curves, high potential tests, capacity and performance curves, winding temperature tests, locked rotor data, noise level data, and operating vibration data.

"The complete family of compressors is designed for minimum weight and envelope with maximum life," Crider stated.

"Compressor lubrication is achieved by utilizing an oil-refrigerant mist principle, assuring lubrication to all bearings and rubbing surfaces without reference to a critical deviation from normal mounting position.

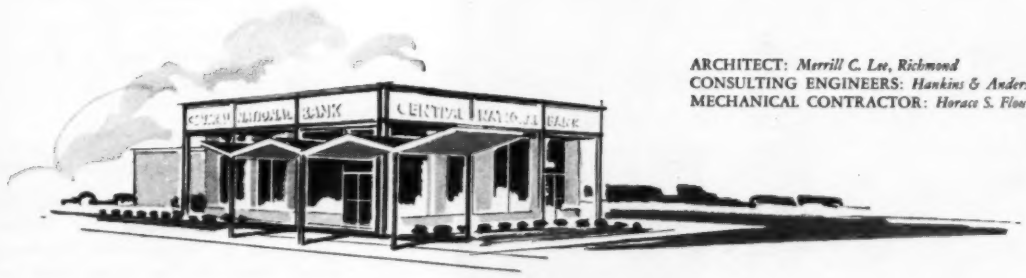
"Although this family of lightweight hermetic compressors includes aluminum casings where environmental conditions are encountered, internal parts utilize the best alloy steels and top grade bearing materials in order to meet the rugged shock, vibration, and life requirements of military specifications.

"We feel," Crider continued, "that there are many detail design features which are an advancement in the art.

"Depending on the requirement, these compressors may be used on aluminum or copper tube systems by supplying the proper tubing adaptors.

"Many features, such as thermostatically-controlled built-in heaters, prevent slugging due to refrigerant migration with changes in ambient temperature, etc."

temperature control job and attention."



ARCHITECT: *Merrill C. Lee, Richmond*
CONSULTING ENGINEERS: *Hankins & Anderson, Richmond*
MECHANICAL CONTRACTOR: *Horace S. Flournoy, Richmond*

This air conditioning system has Honeywell programmed controls which maintain desired temperatures that conform to the bank's working schedule.

"In a climate like Richmond's, there's no doubt about the need for air conditioning," said Mr. Gilham. "But by the same token we have many mild months through the fall and winter when our weather is cooler. The engineers considered all these factors and specified Honeywell for a smooth-working control set-up. This balanced Honeywell control system gives year 'round comfort plus mild weather economy."

The air conditioning system in the bank is one that employs interlocking Honeywell controls. These controls are preset to maintain a temperature level that matches the working hours of the bank. Employees and customers both enjoy this pre-planned comfort.

You get more to work with when you work with Honeywell. Easily installed controls, accurate specifications, prompt delivery and excellent supervision are the advantages enjoyed by every contractor with Honeywell on his team. And, only Honeywell makes all three types of control systems—pneumatic, electric and electronic. There are 112 conveniently located Honeywell offices across the nation. Call your local one for details. Or, write Honeywell, Dept. AN-9-157, Minneapolis 8, Minnesota.

Mr. Hobbs inspects one of the Honeywell thermostats used throughout the bank. Only Honeywell makes all three types of control systems—pneumatic, electric and electronic.

Honeywell

First in Control

SINCE 1885

HONEYWELL INTERNATIONAL
Sales and service offices in all principal cities of the world. Manufacturing in the United States, United Kingdom, Canada, Netherlands, Germany, France, Japan.

NLRB Clarifies Appeals Procedure

WASHINGTON, D. C. — The general counsel of the National Labor Relations Board, Stuart Rothman, recently issued a statement informing NLRB parties and practitioners about an important clarification in the appeals procedure of the Office of the General Counsel.

Rothman announced that, effective immediately, a charging party who appeals to the Washington office of the general counsel from a regional director's dimissal of an unfair labor practice charge can, as a matter of right, present oral argument in support of his appeal to the general counsel or his representative.

Under the Taft-Harley Act, the general counsel has final authority with respect to the investigation of charges and the issuance of unfair labor practice complaints.

The investigation of charges and the initial determination to issue or not to issue a complaint is made by the regional directors in the 28 regional offices. A dismissal of a charging party's unfair labor practice charge in a region may be appealed to the general counsel.

Inside Dope

By GEORGE F. TAUBENECK

(Continued from Page 1)

clock. They knew that anything which moved at a uniform rate —such as the flow of water— could be used for telling time.

Their first water clock simply was a pierced brass bowl floating on a basin of water. When the bottom-punctured bowl filled and sank, an attending slave marked the moment by tolling a huge gong.

An even better water clock was that early specimen in which water dripped through a small opening into a glass container. Time was registered by the shrinking levels of the water.

When sand, or ground egg shells, were substituted for water, the hourglass was born (the eternal "sands of time").

Greeks and Romans, more mechanically inclined, arranged for flowing water to turn cogs and wheels to move dials, levers, and pointers. From there on it was a logical step to the next major advance in timepieces—a weight driven clock.

Clocks of this kind first made their appearance as community timepieces in medieval European village towers.

Enter Galileo and Henlein

When Galileo discovered the principal of the pendulum, greater accuracy for weight-driven clocks arrived. The "grandfather" clock of early America, imported from Europe, is an example.

Clocks still were too large and cumbersome to be carried by persons until 1511, when a young Nuremberg lockmaker named Peter Henlein came up with something truly different.

Henlein created the world's first portable timekeeper—using a coiled spring as its power source. Although this was the first "watch," it was so large and heavy that wealthy owners often employed "bearers" to haul it around for them.

It had only an hour hand; and was so inaccurate that it varied as much as one hour in 24!

Improvements which followed in the next few centuries all were refinements. In 1571 the first wristwatch appeared; and in 1670 the first minute hand.

A persistent source of trouble was the mainspring. When it ran down, a watch gradually would slow up. In 1685, Dr. Robert Hooke of England invented the balance spring, which was a great stride forward in timepiece dependability.

Now We're Getting Ahead of Time

Early in the Twentieth Century watches and clocks reached a high degree of accuracy. And another improvement was added: the "self-winding" watch. Continual movements of the wearer's arm kept it wound up perpetually.

Nevertheless, the spring-driven watch remained basic in all watch-making. From Henlein on — for five centuries — time "stood still."

Then the break-through! From America came the recent announcement of the world's first electrically powered watch. The spring is now as dated as the pendulum, just as the latter obsoleted the sundial and water clocks.

What made it possible? . . . A tiny energy cell no larger than a shirt button.

What about the timepiece of the future? It may be atom-powered. It may *voice* the time when a button is pressed. Or it may operate by radio from a central broadcasting station.

Whatever the future brings, it's unlikely that the ingenious caveman, who first measured the shadow of a stick, will be forgotten. He's the one who started us . . . watching the clock.

Stories of the Week

Mrs. Leonard Fruchtman, wife of the owner of a winning racehorse, *Bally Ache,* discovered that this animal was insured for more than she was. She ballyached to her husband.

"Aw, honey," he explained, "you couldn't run six furlongs in five minutes."

The old-fashioned girl who stepped out fit as a fiddle, now has a daughter who comes in tight as a drum.

Being married saves a man a lot of time making up his mind about things.

Mayor Willy Brandt of West Berlin well remembers a visit to the Moscow Zoo. He was startled to find a big bear in the same cage with a little lamb.

"This," explained his guide, "is peaceful coexistence."

"Of course," the guide added, "we do have to put in a new lamb each morning."

Believe These, and You'll Believe Anything

The Liar's Club of Burlington, Wisconsin awarded its latest prize to a Texan who claimed that there was so little wind on his ranch last summer that he had to take down two of his windmills to have enough breeze left over to operate the third.

A South Dakota entrant recalled it was so dry one summer that when he wanted a drink he had to pull up the well and run it through a wringer.

Wildly through dangerous mountain roads careened an old station wagon.

It was loaded with kegs of newly distilled "moonshine" (illegal) whiskey, and the driver was determined to avoid "revenooers" (Federal tax agents).

Safely within the city limits of a "protected" town, the driver slowed down to a snail's gate.

"You tired, Snuffy?" inquired his bodyguard.

"Huh-uh. Jus' tryin' to age this likker."

Australian Humor

From *Gas Leaks,* published by the F. C. Lovelock parts jobbing house in Australia, we lift the following:

Dear Sir:

In reply to your request to send a cheque, I wish to inform you that the present condition of my bank account makes it ordinarily impossible. My shattered financial condition is due to union laws, liquor laws, provincial laws, town laws, sister-in-laws, mother-in-laws, and outlaws.

Through these laws, I am

Declare a bonus for yourself. Sell the Mueller Climatrol 50-810 Electric Humidifier. You won't find a more profitable option that's easier to sell or easier to install. Add it to existing installations or new ones—the 50-810 is a nice bonus for very little extra selling effort. You'll find it's the perfect product for off-season selling, too.

SELL PERFORMANCE — Humidification is positive, automatic, controlled — doesn't depend on amount of heat from the furnace. 800 watt "Incoloy Sheath" heating element adds up to 28 qts. of moisture to the air daily — enough for a 2000-sq. ft. house.

SELL CONVENIENCE — Customer controls the 50-810 by setting dial on unit or setting optional Humidistat Control in living area. Double-liner reservoir pan catches scale that may accumulate in hardwater areas. Aluminum inner pan can be removed and replaced without getting fingers dirty.

FEWER CALL-BACKS — We've eliminated the two most troublesome elements: (1) needle valves that clog, and (2) floats that leak or disintegrate. Water level is electrically controlled by a solenoid valve for continuous operation night and day.

MC-106

Mueller Climatrol means quality . . . and quality means profit!

Mueller Climatrol
DIVISION OF WORTHINGTON

2056 West Oklahoma Ave., Milwaukee 1, Wis. • 1024 Westminster Ave., Alhambra, Calif. • 2490 Bloor St., West, Toronto 12, Ont.

compelled to pay a business tax, super tax, gas tax, excise tax, sales tax, tariff tax, railway tax, petrol tax, and amusement tax, of which I have none. Even my brains are taxed.

I am required to get a business license, car license, track license, and a dog license.

I am required to contribute to every society and organization which the genius of men is capable of bringing to life; to woman's relief, the unemployed relief, and the gold digger's relief. Also to every hospital and charitable organization in the country, including the Red Cross and the double cross.

For my own safety, I am required to carry life insurance, property insurance, liability insurance, burglar insurance, accident insurance, business insurance, old age insurance, and fire insurance.

My business is so governed that I do not know today, nor can I find out, who really owns it. I am inspected, suspected, disrespected, rejected, examined and re-examined, informed, required, summoned, fined, commanded, and compelled until I provide an inexhaustible supply of money for every known need, desire, or hope of the human race.

Simply because I refused to donate some thing or other I am boycotted, talked about, lied about, held up, held down, and robbed until I am ruined.

I can tell you honestly that except for the miracle that happened I could not enclose this cheque. The wolf that comes to my door so many times nowadays had pups in my kitchen. I sold them, and here is the money.

SAM

Gags of the Week

Ed Zern, vice president of the Geyer, Morey, Madden and Ballard advertising agency, avers that the main trouble with the advertising business is:

It is confronted with too many *crises* which result in *crash programs* that rarely succeed. His definition of a Crash Program:

"Getting nine women pregnant in the hope of producing a baby in one month."

Adlai Stevenson needles that President Eisenhower changed Teddy Roosevelt's advice about speaking softly but carry a big stick to:

"Don't talk while I'm putting."

Marriage, confides Elmer, is a public confession of a private intention.

One nice thing about being a skunk is that you can hang around the neck of a beautiful woman long after you're dead.

"Tell me, friend," queried a sympathetic man of a panhandler, "how did you ever get yourself into such destitute circumstances?"

Replied the derelict, "when I had the world by the tail, I let go to reach for the moon."

"It's quite simple, really," she advised her divorce attorney.

"All I want is custody of his money."

Calif. Contractors' License Board Under Newly Named Commerce Administrator

SACRAMENTO, Calif. — The Contractors' State License Board and four other boards connected with the construction industry find themselves under a newly appointed Business and Commerce Administrator as the result of Governor Edmund G. Brown's reorganization program.

Governor Brown has announced formation of an eight-member cabinet to serve as the policy-making body for the executive branch of California's government.

Four of the eight members will fill new posts established by the legislature. Four others, including Preston N. Silbaugh, named to the nonstatutory post of Business and Commerce administrator, represent policy areas in the cabinet but only as representatives of the governor until the California legislature confirms or modifies the arrangement.

The four boards are: Landscaping Architects, Architectural Examiners, Registration for Civil and Professional Engineers, and Structural Pest Control.

The five boards concerned with the construction industry are part of the 35 boards and commissions in the Department of Professional & Vocational Standards, which with 16 other departments, commissions, divisions, and authorities, form the new Business and Commerce Agency.

Rheem Development Center Set for Dec. Completion

CHICAGO — A new building here housing the Development Center of Rheem Mfg. Co.'s Home Products Group will be completed about Dec. 1, according to Vearl J. Heinis, group president.

The one-story structure is expected to be one of the outstanding research and development facilities in the field of heating, air conditioning, and related equipment, Heinis said. The building is being erected west of the headquarters plant of the Home Products Group at 7600 S. Kedzie Ave.

The center will devote more than 12,000 sq ft to laboratories, model shop, and research office space, said Lyttleton Price, Jr., group vice president for research and development.

Space will be devoted also to a "school room" for demonstrations and customer training. The building will have a special exhibit area.

The building is being erected by Rheem's Building Div., Huntington Park, Calif., using the division's patented insulated metal curtain walls and modular methods of pre-assembled construction.

The building will be completely fitted with Rheem air conditioning, heating, and plumbing fixtures. Each variety of Rheem system for control of interior climate will be used where it best serves a specific application, Price said, adding:

"We'll have electric heat, gas heat, hydronic, and warm-air heat. Radiant hydronic heat around the walls will take care of 15% of total heat loss."

RANCO IMPROVED
"O" SERIES
CONTROLS

Higher Electrical Capacity

Service Men, take note. Ranco "O" Series commercial refrigeration and air conditioning controls have a stepped-up, approved electrical rating —now 16 amps. full load, 96 amps. locked rotor with 115 volts a.c. and 10 amps. full load, 60 amps. locked rotor with 230 volts a.c.

You'll notice a restyled cover, too. Cover and mounting brackets are now finished in a durable, wrinkled black paint. Type and code numbers are stamped on top and back of control frame for sure identification in case nameplate is detached. Increased electrical ratings are listed on insulator board inside cover. New nameplates do not carry type and code numbers or ratings.

Ranco "O" Series Controls are now better than ever in performance, easier than ever to identify.

"O" Series Controls for every installation

010-1401 (shown) is a low-pressure control opening on drop in pressure. Other standard "O" Controls are low pressure, high pressure, dual pressure, dual temperature models with variations according to fixed and adjustable differentials, operation on rise or drop in temperature or pressure, with or without manual reset, cut-out and cut-in ranges, capillary tubes. Gives you replacement controls for general applications in commercial air conditioning and refrigeration installations and special applications in ice cube machines, milk coolers, signal circuits, wide-cycle defrost, and others.

Ranco® INCORPORATED
COLUMBUS 1, OHIO

Service Men! Get this book!—Ranco Book No. 1660 lists "O" Series, and nearly 5000 other Ranco replacement control applications. See your Ranco wholesaler for a copy (not available from factory).

101 Packaged Heating and Cooling Units Handle Westgate Shopping Center from Roof

AN INTERIOR SHOT looking down the central mall shows the attractive fountains, plantings, and vaulted ceiling that add to the beauty of the pleasant air conditioned surroundings encouraging shoppers to leisurely stroll from one shop to another in complete comfort.

MACON, Ga.—With Disney it was Dalmatians.

With the new all-electric Westgate Shopping Center here it is packaged combination heating and cooling units.

Take a bird's eye view and count 'em. 101.

One hundred and one individual York systems to heat and cool 160,000 sq ft of floor space plus 35,000 sq ft of enclosed mall, all under one roof. Not one of the systems is rated larger than 7½ tons.

When Westgate's 30 stores (there will be 34), all facing the central mall, officially opened for business last September, the big attraction was the air conditioned mall.

AN AERIAL PHOTOGRAPH of the center on opening day. This picture shows the 101 air conditioning units spread across the roof to provide air-cooled refrigeration in the summer and electric resistance heating to all store and corridor areas. White dashes through center of building are sky lights to air conditioned mall.

Outside temperatures were in the mid 90's, John Rose, district sales manager for York Div., Borg-Warner Corp., reported, and the mall was shoulder-to-shoulder with people. Yet it was delightfully cool.

Westgate Shopping Center is claimed to be one of the largest to go all electric and to have an air conditioned mall. The air conditioning job totals 700 tons for cooling and nearly 1,800 kw for resistance heating.

To do it, A. B. Lee Plumbing & Heating Co. here installed 81 7½-ton units with 17 kw of electric heat, 15 5-ton units with 14kw, four 4-ton units with 10 kw, and one 2-ton unit with 6 kw of heat. All are air cooled.

All were mounted on the roof of the single story center, each spotted above the area it serves.

High Lighting Loads

Because of high lighting loads over merchandise displays, George Nottingham, consulting mechanical engineer for the project, determined that heating loads along the central mall would require cooling in some areas at outside temperatures as low as 45°F, even with fans spotted in some show windows to dissipate the heat. Therefore, he specified "low ambient" type cooling units, which is York's "Champion" series.

These low ambient type units are designed to prevent frosting of the indoor cooling coil and slugging of liquid refrigerant on startup in mild weather.

Locating the units on the roof was made necessary because a tight budget prohibited the cost of a number of equipment rooms scattered throughout the center. In turn, it required that the units be weatherproofed so that only minimum maintenance will be needed.

Weatherproofing Units

Weatherproofing of the units consisted of the following:

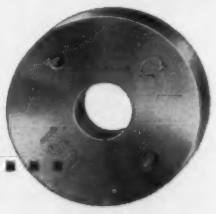
1. Use of 1-in. heavy density foil faced insulation on the interior of the air handling units.
2. Use of "Neoprene" gasketing around the two side access panels.
3. Addition of peaked top covers to prevent rain from puddling on the top of the unit and to keep the sun from radiating directly on the unit top.
4. Providing a water tight access door in the return duct to permit filter access.
5. Insulation of the supply and return ducts above the roof with two layers of foam glass.

Only evidence of the air conditioning equipment inside the stores is the thermostats located on posts in each zone and a central panel for each store with a pushbutton station for each unit and a summer-winter change-over switch.

Use of multiple packages did

Peak Coil Performance starts here

when you buy
SPORLAN Refrigerant Distributors
with the Versatile Interchangeable Nozzle...



The distributor nozzle orifice is the key factor in creating the necessary velocity and turbulence to maintain a homogeneous mixture of liquid and vapor for equal distribution to all circuits of the evaporator.

Provides the desired flexibility to handle variations in evaporator applications . . . changes in load, temperature and refrigerants.

Distributor may be installed in any position.

Permits simplified inspection of solder joints and connecting tubing from distributor to evaporator.

Sporlan Refrigerant Distributors available in any combination of circuits and capacities . . . flare, sweat or flange connections . . . brass, steel or aluminum bodies.

And only the Sporlan line offers brass body distributors with auxiliary side connections developed especially for hot gas defrost, hot gas by-pass and reverse cycle (heat pump) applications.

Get all the facts, *write for Bulletin 20-10.*

SPORLAN VALVE COMPANY
7525 SUSSEX AVENUE ST. LOUIS 17, MISSOURI
EXPORT DEPT. 85 BROAD STREET NEW YORK 4, N. Y.

CLOSE VIEW of the actual equipment shows A. Burton Lee, Jr.—the mechanical contractor on the right—pointing out some of the details of one of the York 5-ton air-cooled systems to George Nottingham, the consulting engineer for the project. To the right of the picture is one of the 7½-ton Champion systems and just to the rear of these gentlemen is a 4-ton Pathfinder self-contained unit.

result in a rather elaborate wiring system, Rose recounted, as power had to be brought to each individual unit and its controls.

Use of electric duct heaters in each zone or with a central cooling system, however, would have required the same power distribution system.

The air conditioned mall design with all stores opening off the central corridors was selected, according to Bernard A. Webb, architect on the project, to permit shoppers to go quickly and in comfort from one store to another without regard for the weather.

At the same time, Webb points out, all delivery service can be performed around the perimeter of the building without blocking entrances or distracting store patrons.

Mall Area Skylighted

The mall area is skylighted, dispelling the "dark corridor" effect. Music, plants, a water fountain, and a light color scheme further enhance the modern mood.

Entrance to the majority of shops is through sliding glass doors which are open during business hours and which serve as show windows when the stores are closed.

Pressurization of the mall, to prevent carry-over of odors from one store to another, was accomplished by providing a fixed 25% fresh air on the mall units. A negative pressure is being maintained in each store through exhaust fans on all spaces.

Fresh air intake on the store units themselves is held to 10 to 15%.

Why Were Individual Units Selected?

Why were individual packaged units selected rather than a central system?

"To visualize the problem the designer had on the project," Rose said, "one must first visualize the size of the project and the problems inherent in trying to apply a central system.

"The single building takes the form of a huge cross with the distance across the extremities of the cross measuring 825 ft in one direction and 405 ft in the other.

"With the central mall splitting the center of the cross, the location of a single equipment room where noise, access, and the ability to feed every store presented several problems.

"Preliminary estimates pointed up the high cost of long runs of insulated chilled water piping, the control system to meet the widely varying load requirements of the different stores and tenants, and the industrial type air units and long runs of duct for each store if a central system were employed.

"The individual roof top systems finally selected minimized the ductwork, eliminated water piping and drains, and simplified the controls as simple line voltage thermostats and push-button stations could be utilized.

Heating, Cooling System Cost $1.50 per Sq Ft

"Over-all result was that the final cost of the heating and cooling system came well within the $1.50 per sq ft originally budgeted."

Raymond Briggs, general contractor for the project, said these design decisions worked out well during construction.

They permitted his men and those of his subcontractors to work on the interior of the building without having to work around mechanical equipment and its piping.

It also served to simplify interior partitioning and speed construction.

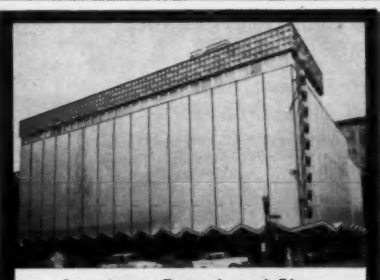
ANOTHER PICTURE of the mall area shows two typical shops. One of the thermostats for each separate section of the mall appears in the center between the two shops. Air supply register is seen in upper right.

Aerovox Reduces Oil Capacitor Prices

NEW BEDFORD, Mass. — Slight price reductions on all Aerovox AC oil capacitors to keep the line fully competitive were announced recently by R. F. Swoish, AC market manager, New Bedford Div., Aerovox Corp. No details were given.

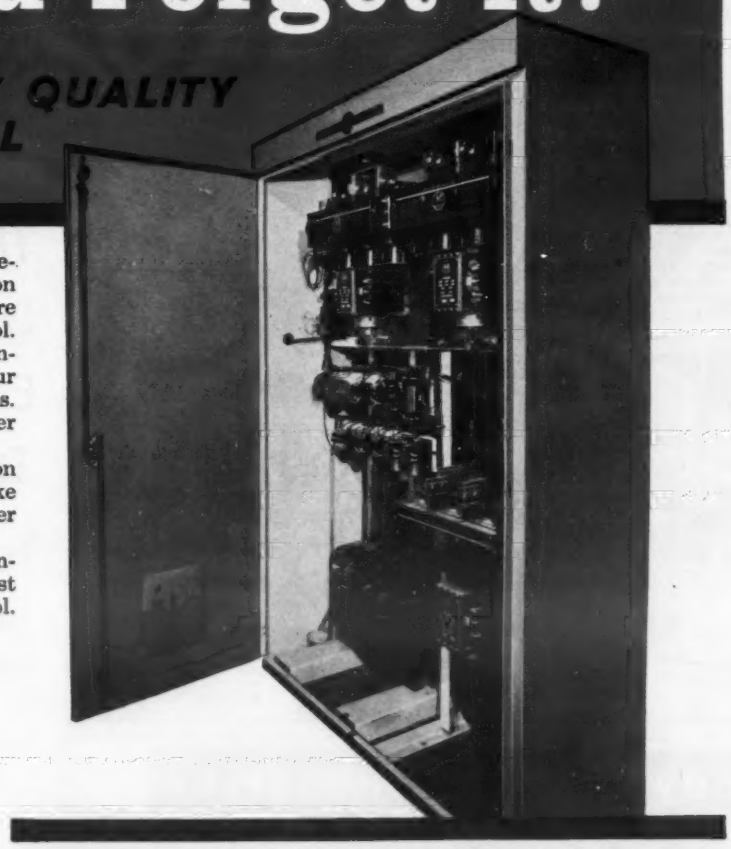
A-B QUALITY

Install It and Forget It!



Armstrong Department Store
Cedar Rapids, Iowa

ALLEN-BRADLEY QUALITY MOTOR CONTROL



Consistent reliability "on the job"—the experience gained over many years—is the reason more and more air-conditioning engineers are specifying Allen-Bradley *quality* motor control.

The simplicity of Allen-Bradley solenoid control—there is only ONE moving part—is your guarantee of *millions* of trouble free operations. The double break, silver alloy contacts never need service attention.

The appearance and the rugged construction of all A-B air-conditioning control will make both the specifying engineers and the owner proud of the installation.

For trouble free, maintenance free performance—that's measured in *years*—always insist on the best—Allen-Bradley *quality* motor control.

A-B Bulletin 798 control center—which contains the combination starters for the auxiliary equipment.

This Allen-Bradley Bulletin 1277 reduced voltage autotransformer starter, installed in the Armstrong Department Store, operates the 300-ton air-conditioning compressor motor. Has closed circuit transition, and meets power company requirements for acceleration without causing light "flicker."

Project Designers: Alvin L. Weidt & Associates, Minneapolis, Minn.
Electrical Contractor: Acme Electrical Company, Cedar Rapids, Iowa

Allen-Bradley Co., 1313 S. First St., Milwaukee 4, Wis. • In Canada: Allen-Bradley Canada Ltd., Galt, Ont.

ALLEN-BRADLEY
Member of NEMA

QUALITY MOTOR CONTROL

SELL THE HIGH PROFIT LINE!

Walton HUMIDIFIERS

RESIDENTIAL—COMMERCIAL
27 MODELS FOR EVERY TYPE OF HEAT AND EVERY NEED

Walton LABORATORIES, INC.
1186 Grove Street
Irvington 11, New Jersey

Editorial

Residential Air Conditioning Can Boom In 1962

America's residential air conditioning business has three things going for it next year—and thereafter.

1. *Probable continuation of a rising sales curve of 12 to 15% a year. This trend is soundly established.* Sales this year should run better than 250,000 units. For 1962 the figure should reach 280,000 plus (some are forecasting 300,000).

2. *Evidence that, for the first time, genuine salesmanship may be introduced into the home heating and cooling business.* Our "Sales Academy" editorial last summer drew an avalanche of mail—much of it asked for advice on how to set up a sales training program. We are following this up with a Sales-Academy-in-Print Issue in December. All this activity is bound to give our industry a lift.

3. *Evidence that we are heading into a major economic BOOM in 1962. So get set for a year of expanding sales* . . . and rapidly rising profits.

All signs point to thumping business gains, say U. S. marketing experts. Most convincing evidence is the bounce America's economic recovery has shown this year. Gains have topped official estimates, and the jumps of other post-war up-turns. It looks now as if our economy will be pulling out of 1961 at a roaring clip.

In addition, the following factors will be adding new momentum to residential air conditioning sales:

Government spending is rising by the billions . . . partly for defense, partly for foreign aid and for welfare programs. Much of the extra outlays will have to be financed by borrowing, which may add some inflationary lift.

Consumer purchasing is due to spurt when wages rise. Retail sales don't leap until several months after a recovery starts.

Investments in inventories and new facilities quickly will respond to increased government and consumer demand . . . another powerful plus.

When these three "ingredients" are present, booms almost always follow.

How big will the boom be? Total output should expand by 10% next year, aver economists. This year, the Gross National Product will hit $518 billion. Next year, this over-all measure of what we produce probably ought to move forward to $565 billion.

Factory output: Gains will average 10% over all—and even more for consumer goods.

Consumer durables: Sales of autos and appliances are slated to rise 15 to 20%. There is a good chance that a near-record 7 million new cars will be sold, it is firmly believed in Detroit.

New home starts: New and old families will purchase 125,000 more in 1962 (1,425,000) than they did this year.

Incomes: More people working at higher wages will increase buying power by at least six per cent. Prices will rise only slightly during the coming year.

We hate to go out on a limb and predict that we all are going to get rich soon.

On the other hand, we'll be stupid if we don't put out a lot of buckets and catch-basins to catch the heavy rains of good business which are indicated so strongly.

SUGGESTS McLEOD GAUGE FOR EVACUATION

Natick, Mass.

Editor:

In the Oct. 16 issue of the NEWS, H. C. Troth of Cali-Daire Co. wrote regarding vacuum recorders. A recorder of the type he describes is manufactured by Hasting-Raydist Co. of Hampton Roads, Va. It is their model RV-4C with a range of 0-20 mm on a logarithmic scale, the smallest division at the low pressure end being 20 microns. The equipment is rather large and even worse rather expensive for the average shop—a little under $1,200. It would seem to me that a recorder chart is little better than a certified statement from the service shop, however, since there are calibration adjustments which can throw the recorder scale off if the operator wanted to cheat on the readings.

One thing I would prefer to see is periodic checks during evacuation with a McLeod gauge. Since a McLeod gauge does not "see" condensible vapors its reading when compared to a total pressure type of indicator such as the popular thermocouple gauge, indicates the relative presence of moisture. Thus, when the two readings agree or are very close the system has been pumped essentially free of moisture. The required time to achieve this condition will vary considerably from system to system and the use of both McLeod and thermocouple gauges will give the serviceman assurance that all moisture has been removed. An excellent McLeod gauge for this purpose (since it is very easy to operate) is the Kinney Measuvac which has two ranges —1 micron to 2 mm and 2 mm to 150 mm. The cost of this gauge is only $150.

DAVID M. ELOVITZ

WE'RE 'MORE INTERESTING EACH WEEK'

Niles, Ill.

October 18, 1961

Dear George,

Just a short note to tell you, that if anything, your Air conditioning Heating & Refrigeration News becomes more interesting and better each week. Going without the News would be the same as going out of the house without my pants. I would obviously be lacking something.

Very truly yours,
Jacob A. Engel

DEFINES TERMINAL VELOCITY

St. Louis, Mo.

Editor:

In your Oct. 2 issue, you defined "Terminal Velocity" (page 15), as—The average air stream velocity at the end of the throw.

While this may be what air handling engineers mean by the term "Terminal Velocity," it is in sharp contradiction with the old and established meaning of this engineering term, which could be defined as: The velocity, at which the gravity force of a falling object equals the sum of the retarding forces.

There is an obvious disadvantage in re-assigning meaning to existing technical terms, so I suggest that your definition in this case should be corrected.

T. GISLASON

YOU WANT DEVELOPING PAPER--OKAY--TELL YOU WHAT-- I'LL TEAR UP THIS REQUISITION SO YOU WON'T BE CHARGED FOR IT---AND YOU CAN TAKE SOME PICTURES OF MY DAUGHTER'S WEDDING---OKAY? IT'S TWO WEEKS FROM SATURDAY---
THAT GUY GIVES THE JOINT AWAY--HE SWAPS THE FIRM'S STUFF FOR EVERYTHING FROM SOUP TO NUTZ---
THE ONLY PEOPLE HE PUTS DOWN ON THE BOOKS ARE THE ONES WHO CAN'T DO ANYTHING FOR HIM!
AND HE'S GOT A COT IN THERE--- I THINK HE RENTS OUT THE ROOM AT NIGHT---
I'M JUST WAITING FOR INVENTORY--- HEH-HEH--HE'LL BE OUT ON HIS CONNIVING EAR!
STOCK ROOM
WATCHING THE STOCK ROOM TYCOON DO A LITTLE BARTER JOB----
THANX AND A TIP OF THE HATLO HAT TO I.C.W., MONTPELIER, VT.
© 1961, King Features Syndicate, Inc., World rights reserved.
6-20

They'll Do It Every Time

by Jimmy Hatlo

Handy Way to Subscribe

To See the Industry In Action EVERY WEEK

Keep up-to-date on what's going on in your industry. You'll see action weekly in AIR CONDITIONING, HEATING & REFRIGERATION NEWS. Covers latest news and gives you top how-to-do-it reports on residential, commercial, and industrial air conditioning, heating, and refrigeration for contractors, dealers, consulting engineers, distributors, servicemen, and manufacturers. Read the industry's only newspaper every week—you'll profit by it—only $6.00 per year, 52 issues (U.S. and Canada). Foreign: $10.00 per year.

11-6-61

AIR CONDITIONING, HEATING & REFRIGERATION NEWS
450 W. Fort Street — Detroit 26, Mich.

Gentlemen:
Send The NEWS every week for one year.

☐ $6.00 enclosed ☐ Bill Me ☐ Bill Company

Name .....

Company .....

Street .....

City ..... Zone..... State.....

IMPORTANT: Company's Type of Business.....

.....

AIR CONDITIONING HEATING & REFRIGERATION NEWS
F. M. COCKRELL, Founder

'The Conscience of the Industry'

GEORGE F. TAUBENECK, *Publisher* — EDWARD L. HENDERSON, *President*

PHIL B. REDEKER, *Editorial Director*
FRANK J. VERSAGI, *Editor*
C. DALE MERICLE, *Associate Editor*
JOHN O. SWEET,
HUGH T. MAHAR,
GEORGE M. HANNING, *Assistant Editors*
TERRY TREIBER, *Editorial Assistant*
JOHN MacLEAN, *Research & Prom. Dir.*
ROSALIE ASHLEY, *Circulation Mgr.*
DELORIS KROL, *Subscription Mgr.*
EDITH KING, *Reader Service Mgr.*

ROBERT M. PRICE, *Vice Pres. & Sales Director*
ALLEN SCHILDHAMMER, *Vice Pres. & Adv. Mgr.*
REX SMITH, *Western Adv. Mgr.*
FRANK L. TAYLOR, *Eastern Adv. Mgr.*
WALTER J. SCHULER, *General Production Mgr.*
ALICE M. BARROW, *Adv. Production Mgr.*

ADVERTISING OFFICES

New York	Detroit	Chicago	Los Angeles
521 Fifth Ave.	450 W. Fort St.	134 S. LaSalle St.	4710 Crenshaw
MU. 2-1928-9.	WOodward 2-0924	FRanklin 2-8643-4	Blvd.
Robert M. Price	A. Schildhammer	Rex Smith	AXminster 2-9501
Frank Taylor	Charles Pokorny	Dave Ryden	Justin Hannon

SUBSCRIBERS IN 83 COUNTRIES

Member, Audit Bureau of Circulations. Member, Associated Business Publications.

Published Every Monday by BUSINESS NEWS PUBLISHING CO., 450 W. Fort St., Detroit 26, Mich. Telephone Woodward 2-0924. Subscription Rates: U. S. and Possessions and Canada: $6.00 per year; 2 years, $9.00; 3 years, $12.00. All other countries: $10 per year. Single copy price, 40 cents. Ten or more copies, 30 cents; 50 or more copies, 20 cents each. Send remittance with order.

From the Files of the News

25 years ago . . .

The FTC has more specifically defined "air conditioning": "signify the control by a mechanical device of the **temperature, humidity,** and **circulation** of the air in rooms, buildings, and train cars; and the non-performance of any one or more of these functions" means the function cannot be called air conditioning. Therefore, the Corozone Air Conditioning Corp. cannot advertise its "air purifier" products as air conditioners because they don't function as such.

Successful Toledo, Ohio's "specialty salesman," Bob Winters reports he'd much rather sell air conditioning than commercial refrigeration because it's "easier" since "you have a range of 10° or so in which to operate without discomfort in the home." Winters Electric Co. has sold 43 unit air conditioners and has its most-talked-about installation in the Owens-Illinois Glass Co.'s reception room equipped with glass block walls and glass insulated ceiling.

". . . Kelvinator to Merge with Nash Motors"; George Mason to be president; C. W. Nash, board chairman . . . of "Nash-Kelvinator Corp." . . . "combined assets will make $50,000,000 corporation."

In the interests of breeding "stronger and healthier dogs," the Deephaven kennels in Minneapolis were recently air conditioned. . . . A survey of 389 heating and plumbing contractors reveals that 68% operated at a profit during 1935.

City officials shouldn't worry about their water facilities, according to a Carrier engineer because "engineers have anticipated water shortage possibilities and have already developed equipment which eliminates from 90 to 95% of normal water requirements."

10 years ago . . .

Two speeches on heat pumps will be given at the Southeastern Electric Exchange annual sales conference meeting this week; a General Electric representative will discuss "Recent Heat Pump Developments" and a Florida Power Co. spokesman will review "Five Years of Experience with the Heat Pump." . . . Estimates of up to 15,000 visitors to the 7th All-Industry Exposition this November have been predicted as enthusiasm mounts to see the displays of over 200 manufacturers of air conditioning and refrigeration equipment.

According to "Parade" magazine, cattle rustlers are still "big business" . . . biggest change in the '51 approach to rustling is that the "rustled cattle" are stored in freezers . . . "yet another use for the home and farm freezer." . . . A 15-hp compressor has been installed in Detroit's Milan Wineries to efficiently cool 1,999 gals of wine from room temperature to 20°F overnight so as to force excessive amounts of residue (cream of tartar) from the wine before it is bottled.

To keep its 13,938 transformers operating when air conditioning units are pulling down peak loads, the Dallas Power & Light Co. employs 3-4 crews of servicemen 24 hours a day and is replacing between 150 and 200 transformers a week in this "most air conditioned city in the country." . . . Application of high-energy electrons (cathode rays) in the field of food sterilization has far reaching potentialities and may permit foods to be stored for long periods without spoiling, according to G-E scientist, Dr. E. E. Charlton.

FIVE ENGINEERS from different Moore-McCormack ships attended a four-day training course on air conditioning at Chrysler's Training Center in Rye, N. Y. to learn about "Big Charlie." The latter unit was a marine training device developed by engineers at Chrysler's Airtemp Div. Those at the training class included (front row, left to right) Dan Juliano, Chrysler marine sales engineer; Richard Lockwood, Chrysler coordinator of sales and service training; Charlie Cave, manager of application engineering for Chrysler; and Moore-McCormack engineers Roger C. Reed, Donald McManus, and Bernard Zlockower. The two Moore-McCormack engineers in the second row are Woodrow Yeager and William Steele. A second training course was held for seven engineers from the Farrell Line.

Seamen Seek Cooling For Crew Quarters On All New Ships

GENEVA — Seamen want crew quarters on all new ships to be air conditioned.

However, the seafarers' representatives were unsuccessful in efforts to obtain adoption of a resolution to this effect at a recent meeting here with shipowners, which was called by the International Labor Organization.

After shipowners rejected the seamen's demand, the two sides decided to send their differing views to the labor organization's governing body for communication to government and seamen's and shipowners' organizations. The air conditioning issue came up at a meeting of the United Nations agency's Joint Maritime Commission.

Handy Tube Bender

Smoothly Bends any pipe or Tubing ⅜"-1⅛" O. D.

• Just a twist of the wrist assures perfect, even bends — right angle, any angle, U and offset. Save enough on ONE job to pay for your HANDY BENDER.

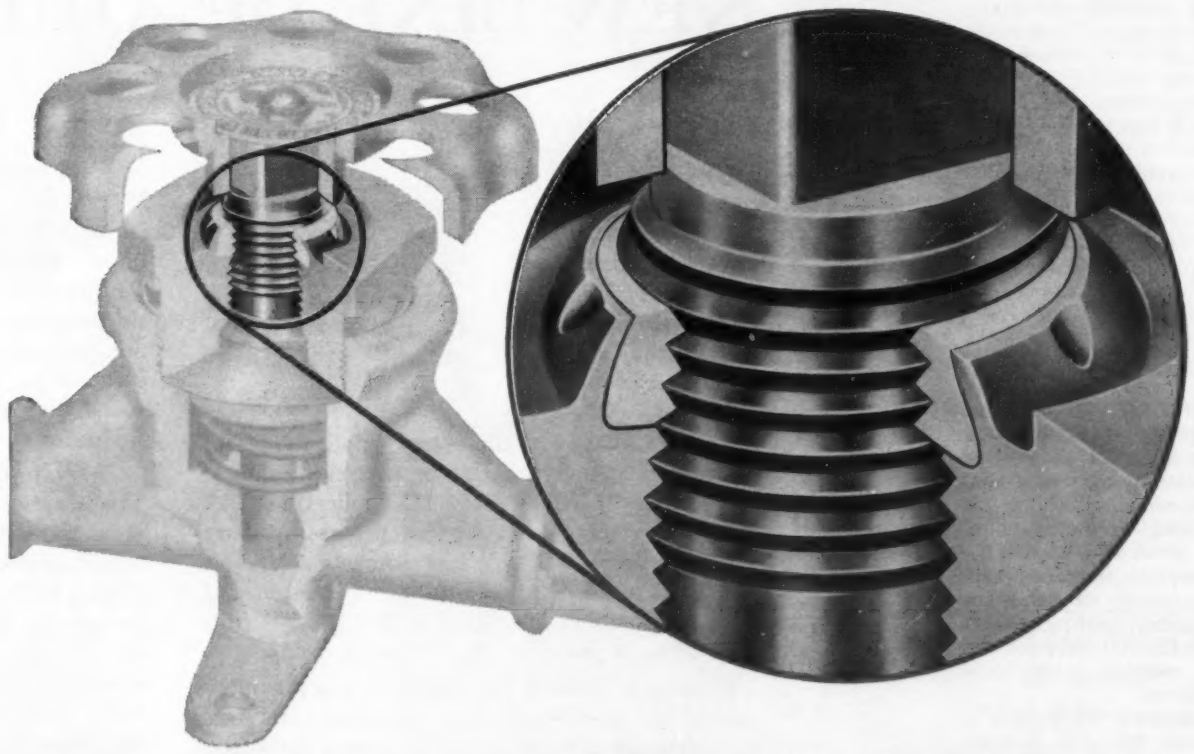
See your supply house—or write for free folder today.

HOLSCLAW BROS., INC.

428 N. Willow Road • Evansville, Indiana

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

NOW! STOP VALVE FREEZE-UP



WITH THE NEW "SEALZALL" Superior

For the difficult supermarket job try Superior's newly developed "SEALZALL" moisture seal (Patent No. 2,986,372). SEALZALL is now available in the *refrigeration service proven* Tuffy and Globe valves in sizes up to 1⅛". This positive moisture barrier prevents condensation from seeping down between the stem and bonnet and causing valve "freeze-up."

Made of resilient Teflon, the SEALZALL moisture barrier is firmly sealed into the valve bonnet. The SEALZALL does not turn with the opening and closing of the valve, but remains in position and maintains a permanent seal.

When you specify Superior Valves, you're assured of quality . . . in engineering, manufacturing, testing and performance. Simplicity in design, from the hand wheel through diaphragm construction, makes Superior Valves easier to install . . . and *longer lasting* in performance.

See your local *wholesaler* and specify Superior Valves and accessories. 3304

Superior

valve and fittings company

1509 W. LIBERTY AVE. • PITTSBURGH 26, PA.

Current Literature

Design and Drafting

DETROIT — N. N. Freling, president of the American Institute for Design and Drafting, has announced the availability of a bound volume of all technical papers presented at the Institute's recently sponsored Design-Drafting Seminar at Oklahoma State university.

The volume contains papers covering such subjects as "Models and Photos in Plant Design" by Robert C. Scheeler, engineering department, Phillips Petroleum Co.; "Photograph in Design and Drafting" by Chuck Ferren, Eastman Kodak Co.; "Standards and Standardization in Design and Drafting" by John Rayfield, standards section head, Astrionics Div., Fairchild Stratos Corp.; "Aerial Photography and Line Maps" by G. E. Thayer, plant manager, Edgar Tobin Aerial Surveys; "Miniaturization of Engineering Drawings — A Means of Speeding Communications" by Dale S. Kuebler, Photo Devices, Inc.; "Graphics Training and Equipment Development in the Aircraft Industry" by Leonard A. Nelson, The Boeing Co.; and "Your Reproduction Services" by Frank E. Golightly, Westinghouse Electric Corp.

The volume is available to non-members of the institute for $5. It can be obtained by writing the American Institute for Design and Drafting, 18465 James Couzens Highway, Detroit 35, Mich.

Supply Catalog

NEW YORK CITY—Paramount Electrical Supply Co., Inc., here recently used direct mail to announce the wholesaling firm's first complete catalog.

The catalog, according to the company, is not only a sales tool but a complete reference book for refrigeration, air conditioning, ventilating, heating, electrical and industrial supplies, accessories, renewal parts, tools, and equipment.

For a detailed description of the unusual 500-page volume, see page 19, Sept. 18 issue of the NEWS.

Guide and Data Book

NEW YORK CITY — The American Society of Heating, Refrigerating & Air-Conditioning Engineers (ASHRAE) announces the distribution of its *1961 GUIDE AND DATA BOOK.*

"This book is an historic milestone in the 65 years of publishing by ASHRAE and its predecessor societies," the announcement said. "For the first time, two of the top technical reference books in the fields of heating, refrigeration, air conditioning, and ventilation are appearing under one cover."

The *Heating, Ventilating and Air-Conditioning GUIDE,* published since 1922, and the *Air-Conditioning and Refrigerating DATA BOOK,* which made its first appearance in 1932, have been consolidated into the new *GUIDE AND DATA BOOK.*

The 1961 volume of the two-volume new series features 880 pages of reference material on "Fundamentals and Equipment." The second volume, on "Applications," will appear in 1962.

The 1961 volume contains sections on Theory, Materials, Load Calculations, System Components, Unitary Refrigeration Equipment, Air Conditioning Units, and Refrigerant Systems: Charging, Cleaning, and Lubrication. Features of this publication are a complete index for the 67 chapters, numerous charts, graphs, and tables, and 406 pages of product specifications.

"In scope and depth, this volume is the society's most complete reference book published thus far, containing engineering information essential to the planning, installation, and maintenance of climatic control and refrigeration systems," it was stated.

Price of the 1961 volume is $12.50.

ATC Units

VERONA, Wis.—A new catalog on low-velocity dual duct acoustics terminal control (ATC) units has been issued by Carnes Corp. here.

Presented in Catalog No. 1361 are two ceiling models with end or bottom discharge for which several diffusers are available and two window/perimeter models.

The book also contains application diagrams, performance and sound rating tables, and specifications data.

Heating, Cooling

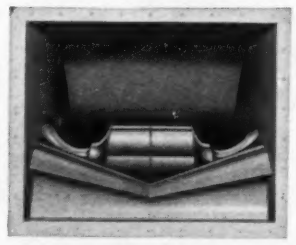
BROOKLYN — Much previously unpublished information on heating, cooling, and heat transfer is said to appear in Technical Data Bulletin No. 356, published recently by Dean Products, Inc., 1042 Dean St. here.

The bulletin contains an instantaneous LMTD chart, pressure drop short cuts, data on how to figure heating load, and information on how to select heating surface, according to the firm's announcement.

A REPORT FROM TRANE:

AN ADVANCED NEW LINE OF AIRFOIL FANS

TRANE announces a completely new line of Airfoil Fans. It is a new and advanced line—that provides quiet operation, high efficiency and uniform air delivery.



There's a TRANE Airfoil Fan for virtually every application—for comfort heating, ventilating or air conditioning—for higher pressures of Class III applications—for high or low pressure industrial process systems. This new line is available in a complete size range of Class I, Class II and Class III—Class I and II from 24″ to 89″; Class III from 24″ to 73″. Units have 88 to 91 per cent total efficiency rating.

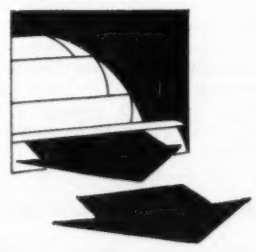
Extensive research was done on every component of the new TRANE Fan. Countless tests were run. New manufacturing processes were developed to duplicate the exact contours of precision-built test models. Result: A fan that brings improved performance to air moving equipment.

EXCLUSIVE AIR CUTOFF

In developing this new line of Airfoil Fans, a design feature of major importance is the new type of air cutoff. The sloping rolled design of this cutoff helps create a more uniform flow of discharge air and reduces recirculation of air between the housing sides and fan wheel for quieter, more efficient fan operation.

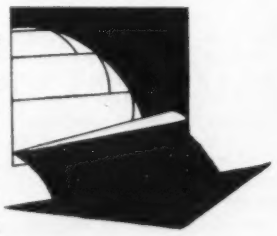
OLD STYLE CUTOFF

With standard cutoff parallel to fan blades, definite impact results as air leaves the full width of blade, hits the full width of cutoff. This non-uniform air discharge sets up an objectionable sound that repeats at blade frequency.



NEW TRANE CUTOFF

The sloping rolled cutoff peels the air off fan blade edges; air from the inlet end of each blade contacts highest point of the sloping cutoff. It intercepts the air along each point on the blade edge. As the last of the blade edge passes the lowest point of the cutoff, air from the inlet end of the next blade is already contacting the high point of the cutoff. The result is a continuous, smooth deflection of the air that is exceptionally quiet, with no "thumping."



ENTIRELY NEW BLADE DESIGN DEVELOPED

Over a hundred different types of airfoil blade shapes were developed and tested. These included blades in a wide variety of sizes and shapes—some with camber and some without.

This new TRANE Airfoil Blade has a very slight camber and a blade thickness that is 12 per cent of the blade's chord. This relatively thick blade contributes to the higher fan efficiency.

New Journeymen

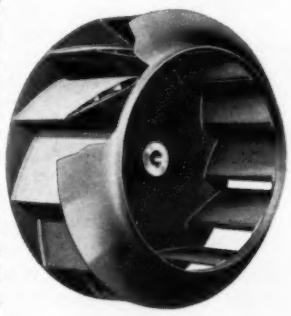
CERTIFICATES of apprenticeship completion and journeyman cards as refrigeration fitters were presented to 28 young men at graduation ceremonies for the southern California refrigeration and air conditioning industry. Shown holding their certificates are new journeymen Tony R. Landino (second from left) and David A. Serne (center) who received them from Gene Ballard (second from right), business manager of Refrigeration Fitters, branch local 250, and C. F. Voss (right), special representative, Refrigeration & Air Conditioning Div., United Assn. Assisting, at left, is Paul Bachellerie, chairman of the Apprentice Div. of the Joint Training Committee.

Contractors Honored

AL HANSON (second from left), chairman of the southern California joint journeymen and apprentice training committee, presents special certificates to H. W. Zebley of Carrier Corp. and H. P. Schuch (at right) of Vernon Refrigeration Co. who were among 52 air conditioning and refrigeration contractors recognized at industry's apprentice completion ceremonies last month. Assisting in the presentation is Henry B. Ely (left), executive secretary of RACCA Southern California.

AIRFOIL WHEEL WITH 12 BLADES

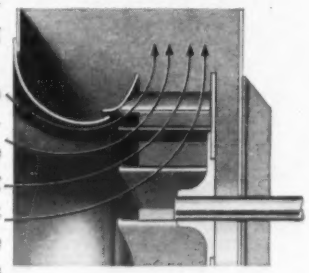
Integrated with the blade design was the development of the Airfoil Wheel and determination of the optimum number and angle of blades within the wheel. Wheels with various numbers of blades were tested. When 12 blades were used, it was found that the wheel operated most quietly and efficiently. It was also found that the sound generated by the 12-blade wheel was of a higher frequency and could be more easily attenuated.



The structural design of the wheel was proved in stress analysis tests. Wheels were run well above maximum design speeds without damage.

INLET CONE AND WHEEL RIM DESIGN ELIMINATE POWER-WASTING EDDIES

The inlet cone and wheel rim were designed and developed to work together. The design of the inlet cone permits smooth air entry with a minimum of shock and turbulence. Power-wasting eddies are eliminated.



The wheel rim reduces turbulence in the entering air as it leaves the inlet cone. By matching the contour of the inlet cone, the design of the wheel rim assures smooth, uniform air flow through the wheel.

NEW MANUFACTURING PROCESSES DEVELOPED

New manufacturing processes were developed for the TRANE Airfoil Fan to assure precise accuracy.

Each blade is manufactured from a single steel plate which is formed around a die with the trailing edge electrically welded and ground smooth. This precision die-forming and grinding results in an unusually smooth blade that is duplicated exactly and consistently time-after-time.

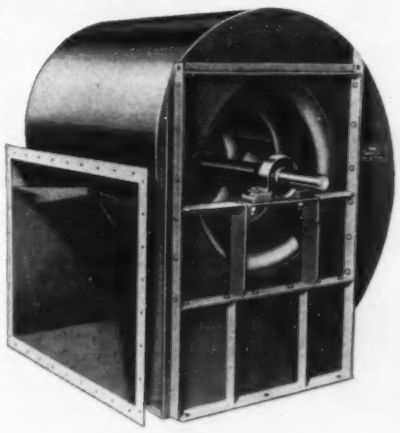
The 12 die-formed blades are continuously welded to a formed side rim and hub plate. Rigid fixtures hold components in precise position and a backstep welding procedure is used to prevent distortion and to assure close dimensional tolerances. The finished assembly is then mounted on a solid steel shaft and electronically balanced. The result is an unusually smooth-running, durable wheel.

As a result of advanced TRANE development and engineering, the new Airfoil Fans are exceptionally quiet in operation and are sturdily built to provide long life, trouble-free operation.

ACCURATELY RATED

All TRANE Airfoil Fans are accurately rated, carry the AMCA Certified Rating Seal.

WANT MORE FACTS on the new line of TRANE Airfoil Fans? Just call your nearby TRANE Sales Office—or write to TRANE, La Crosse, Wisconsin.



For any air condition, turn to

TRANE

Manufacturing engineers of air conditioning, heating, ventilating and heat transfer equipment

THE TRANE COMPANY, LA CROSSE, WIS. • SCRANTON MFG. PLANT, SCRANTON, PA. • CLARKSVILLE MFG. PLANT, CLARKSVILLE, TENN. SALT LAKE MFG. PLANT, SALT LAKE CITY, UTAH • TRANE COMPANY OF CANADA, LIMITED TORONTO • 101 U.S. AND 20 CANADIAN OFFICES

Emerson Electric Shifts Several In Sales Posts

ST. LOUIS — Several assignments and organizational changes within the Merchandise and Builder Products Sales department at Emerson Electric Mfg. Co. have been announced by Edward L. O'Neill, vice president and general sales manager.

Maurice Falchero has been given the responsibility of assistant merchandise and builder products sales manager and will work directly with the field sales force as well as continuing his present responsibility for general direction of the company's advertising and sales promotion.

Robert D. MacCloy, formerly sales promotion manager-building products, is appointed advertising manager with responsibilities for advertising covering all areas of the company.

Louis L. Colbert continues as assistant builder products and merchandise sales manager and has been assigned specific responsibilities for the department's lighting and electric heat products and the field specialists in these areas, as well as the responsibility for new business development.

Charles Parker, formerly Emerson Electric builder products salesman, assigned to the north central region, is appointed contract sales manager.

Bruce Ross, formerly electric heat specialist assigned to the western region, is appointed sales manager-electric heat.

James Burton, formerly Emerson Electric builder products salesman assigned to the southeast region, is appointed sales manager - national accounts.

Donald J. Harper continues as builder products and merchandise sales manager.

Bridge-Tunnel Gets Incremental System For Underground Office

NORFOLK, Va. — As "the world's largest bridge and tunnel combination" inches across the mouth of Chesapeake Bay, E. Moise Johnson, Remington Corp. vice president, announced that an incremental system of air conditioning had been ordered by Coley & Peterson, Inc., of Norfolk, for installation in the underground headquarters.

This new 17.6-mile crossing connects the Delmarva Peninsula, as the eastern shore of Delaware, Maryland, and Virginia is known, with the rest of Virginia, near Norfolk.

H&A Assn. Plans Convention Jan. 11-13

SARASOTA, Fla. — Selection of the Colony Beach Resort here for its annual convention Jan. 11-13 has been announced by the Heating & Air Conditioning Research & Development Assn., which headquarters in Raleigh, N. C.

These Two Pages . . . More on Materials

RESULTS OF testing magnesium additions to hot-dip galvanizing baths are pointed out by Charles F. Schrieber of the Dow Chemical Co.'s Electrochemical Research Department. Dow's testing in an industrial-marine environment indicates a 20 to 90% improvement in corrosion protection when a small amount of magnesium is added to the galvanizing bath.

Azeotropes

Might They Produce 'Miracle Refrigerant'?

Designers of refrigeration and air conditioning systems, realistically or not, longingly pine for a "miracle refrigerant" which will solve some of their problems. Along these lines, increasing thought is being given to various refrigerant mixtures, especially azeotropes. An azeotrope is a refrigerant mixture which has its own thermodynamic properties that are unlike either of its constituents.

A partial list of azeotropes is provided here by R. C. Downing of du Pont's "Freon" Products Div.

Boiling Point In °C	Composition*	Source of Information
−45.6	63% Refrigerant-22 37% Refrigerant-115	Benning, USP 2,641,579 assigned to du Pont
ca. −45	68% Refrigerant-22 32% propane	Reed, USP 2,511,993 assigned to Carrier Corp.
Not given	75% Refrigerant-22 25% hexafluoropropene	Whipple, I & E Chem *44* 1664-6 (1952)
−41.4	75% Refrigerant-22 25% Refrigerant-12	Eiseman, J.A.C.S. *79* 6087 (1957)
−41.3	69% Refrigerant-115 31% 1,1-difluoroethane	Lewis, USP 2,641,580 assigned to du Pont
−35	72.5% Refrigerant-12 27.5% methyl chloride	Brandt, Refrig. Engrg. *46* 303 (1943)
−33 to −32.5	58% hexafluoropropene 42% Refrigerant-12	Whipple, I & E Chem. *44* 1664-6 (1952)
−32.8	66% Refrigerant-12 34% 1,1-difluoroethane	Pennington and Reed, USP 2,479,259 assignor to Carrier Corp.
−11.5	80 Vol. % 1-chloro-1,1,2,2-tetrafluoroethane 20 Vol. % Refrigerant-C318	Park, USP 2,384,449 assigned to du Pont
− 2.2	59% Refrigerant-114 41% butane	Fleischer, USP 2,191,196 assigned to General Motors
+40 at 54.8 psia	70% Refrigerant-114 30% Refrigerant-21	Reed & Pennington, USP 2,630,686 assigned to Carrier Corp.
+15.6	55% Refrigerant-11 45% acetaldehyde	Fleischer, USP 2,191,196 assigned to General Motors
+20.0	82% Refrigerant-11 18% methyl formate	Fleischer, USP 2,191,196 assigned to General Motors

*Weight percentages are given unless otherwise noted.

Glass Fiber Plant To Produce Own Basic Materials

MOUNTAINTOP, Pa. — What is said to be one of the first glass fiber plants built in many years to produce its own basic materials and turn out a wide range of finished products is speeding toward completion.

The plant, located on a 13-acre site in the Crestwood Industrial Park of Mountaintop (near Wilkes-Barre), will be the new manufacturing facility of Fibrous Glass Products, Inc., a subsidiary of Pall Corp., Glen Cove, N. Y.

Fibrous Glass is a custom manufacturer of thermal, shock, and acoustical insulating materials as well as filtration elements.

The company has supplied insulation for many government projects, and it also supplies a broad range of engineered insulation products for air conditioners, electronic packaging and other uses, the announcement noted. It reportedly is one of the few companies in the U. S. offering molded-to-shape fiber glass insulating materials.

The main building of the new plant will contain 58,000 sq ft of floor space, divided into areas for raw materials, processing, fabrication and molding, and special machining.

In full operation, the plant is scheduled to have a capacity of 10 million pounds of glass fiber per year.

Hungerford Plastics Purchases Ductall, Newport Plastics

MORRISTOWN, N. J.— Hungerford Plastics Corp. here, specialist in the formulating, compounding, and molding of vinyl plastics, has announced the purchase, for cash, of the inventory, physical assets, and business of the Ductall Corp. and Newport Plastics, Inc., both of Costa Mesa, Calif.

The latter firms manufacture flexible reinforced vinyl hose for heating, air conditioning and ventilating systems, and other applications.

Hungerford Plastics has also entered into an agreement to purchase world rights for a number of inventions, from A. H. Swan, founder and president of both Ductall and Newport Plastics, covering various types of flexible plastic hose and methods and equipment for manufacturing the hose, the announcement said.

The operations of both Ductall and Newport Plastics have been consolidated into Hungerford Plastics and will be operated as the Ductall Div. of that company. Swan has been elected a vice president of Hungerford and manager of the Ductall Div.

Operations will continue in the Ductall plant on the West Coast, and it is planned to establish production lines at Hungerford Plastics plants in Morristown, N. J., and Durant, Miss.

SPECIFY
MIGHTY MITE
MOTOR PROTECTORS
STANDARD DESIGNS

WRITE FOR CATALOG
MECHANICAL INDUSTRIES PRODUCTION CO.
223 ASH STREET • AKRON 8, OHIO
SOUTHERN PLANT: DANIA, FLORIDA

PART NO. E-1
U. S. Pat. Pend.

CAPPY is an electronic instrument designed to provide a quick and simple means to test all types of capacitors and condensers, both A.C. and D.C. — all voltages. CAPPY operates on 115 V. A.C. or D.C.

SMALL ENOUGH TO FIT IN YOUR SHIRT POCKET

Use CAPPY to test capacitors which are leaking — grounded — shorted — open — good. Test starting and running capacitors — D.C. or polarized condensers — fuses — motor windings — line voltage.

Test capacitors

Test motor windings

For additional information ask your wholesaler or write to Dept. N-111.

WATSCo INC.
1020 EAST 15th STREET, HIALEAH, FLORIDA

What's New In Materials

Many recent developments in materials for air conditioning, heating, and refrigeration were described in the Oct. 30 issue of the NEWS. These columns contain brief descriptions of a few more.

Introduce Flux Coated Silver Brazing Alloy

WHITE PLAINS, N. Y.—"Trucote #101" is the first of a new line of flux coated silver brazing alloys manufactured by All-State Welding Alloys Co., Inc., 249-55 Ferris Ave. here.

Trucote #101 "uses the same precision engineered flux extrusion originally developed by All-State for the coating of premium bronze rods," the company said. "The flux is anhydrous and hygroscopic. It does not chip or char but continues to provide excellent cleansing and wetting action from end to end of the rod.

"Trucote can be used whereever silver brazing alloys are used—both on ferrous and nonferrous metals. Trucote joins dissimilar metals: copper, brass, high alloy, and stainless steels; whether it is tubes, piping, ignition assemblies, plumbing fixtures, and many other applications.

Deluxe packaging for Trucote #101 is in plastic tubes. Bulk packaging for large industrial users is also available.

Bow Polyether Resins For Urethane Foams

NEW YORK CITY—Commercial availability of "Fomrez" polyether resins for flexible urethane foams has been announced by Witco Chemical Co., Inc., 122 E. 42 St., New York 17, N. Y.

Based on propylene oxide, the new resins are polyether diols (offered under the Witco trade name Fomrez ED-2000) and triols (Fomrez ET-3000 and Fomrez ET-4000).

Fomrez ED-2000 is a polypropylene glycol with an average molecular weight of 2,000. Fomrez ET-3000 and ET-4000 are propylene oxide adducts of glycerine with respective molecular weights of 3,000 and 4,000.

Adhesive Combines Rubber, Epoxy Features

NEW YORK CITY — Rubba, Inc., 1015 E. 173rd St., New York 60, N. Y., has announced the development of "Rubbapox" which "promises to be an important breakthrough in adhesive technology."

"Rubbapox has the rubbery qualities and ease of application of rubber-based adhesives plus the best qualities of epoxy adhesives. The adhesive contains neither water nor solvents and is 100% solids.

"Unlike epoxies, Rubbapox is a one-part adhesive which requires no mixing prior to use. It is easily applied to one surface and placed in contact with the other surface, curing overnight. The bond continues to grow stronger several days after application.

"Rubbapox is excellent for laminating polystyrene foam, polyurethane foam, and polyethylene foam to aluminum, steel, and 'Cycolac.' Rubbapox can also be used as a caulking compound or waterproof sealer. It remains permanently flexible and gives excellent service at temperatures ranging from -80°F to 250°."

Regular What's New Section is on pages 22 and 23.

Carrier Engineers Tell

What Manufacturers Want In New Materials, What They Are Getting

SYRACUSE, N. Y.—Research and development engineers at Carrier Corp. here make the following comments relative to the role of materials:

"Regarding the needs of the industry — a fire-resistent economical plastic which can be processed by injection molding would be of great advantage. Fire-resistant plastics now available are either too costly or they cannot be molded. As an example, a fire-resistant polystyrene would be useful.

"There is also a need for substantial improvement in organic finishes. Despite what paint producers say, today a manufacturer cannot depend on a finish for longer than three or four years. Thus, equipment must be designed so that it can be repainted.

Nonflammable Duct Sealer

"Another help to the industry would be an effective, nonflammable sealer for ductwork. Today, most suitable viscous and heavy liquids available for this purpose are flammable.

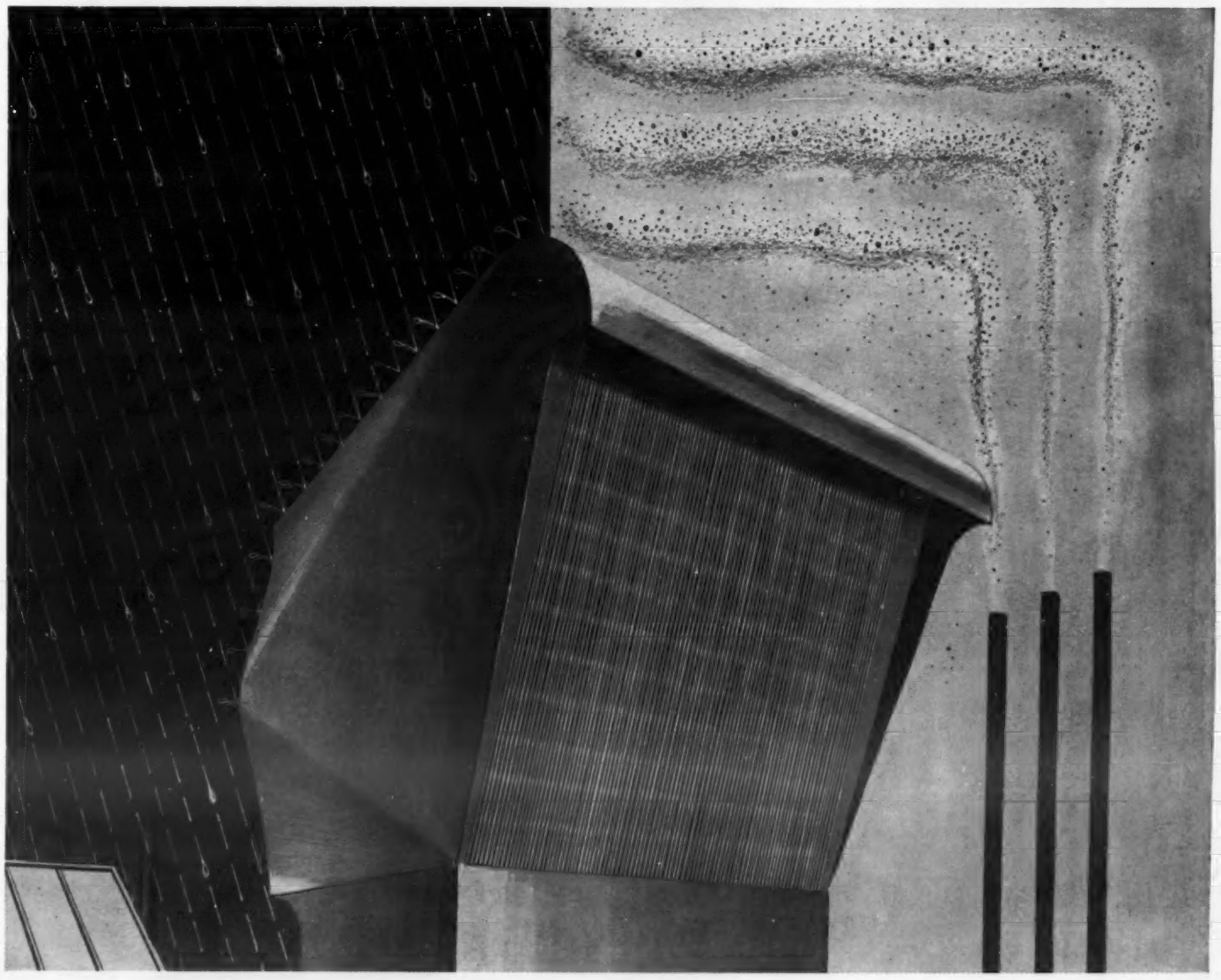
"High temperature thermal stability and oxidation-resistance in low temperature refrigeration oils beyond those now available are also needed. We desire a hydrolytic and pyrolytic inhibitor to prevent degradation which frees halogen molecules from refrigerant. This would minimize corrosion in the refrigeration system.

"As for the impact of new materials on our products, continuous film coated magnet wire insulation has been improved with respect to its softening in Refrigerant-22. Lubricants have been improved, and so has filtering material because of the development of expanded open-cell foam plastic. The latter has some advantages over expanded metal and glass fiber filters.

"Thermal insulation has been improved with the advent of foam. The future looks promising for the use of low thermal conductivity gasses to produce foam insulation. It has already reduced the thickness of insulation required.

"New cooling tower fill materials are today permitting a marked increase in surface area, reducing the volume and weight of the towers."

DESIGN HOUSINGS OF ANACONDA ALUMINUM FOR... EASIER, FASTER FABRICATION AND LASTING EYE APPEAL



Both you and your customers profit when you fabricate air-cooled condenser housings of Anaconda Aluminum. Your savings start with easier, faster forming and fabrication. You can give customers a piece of equipment which will enhance the appearance of their property. They save on upkeep since maintenance painting is not needed even in industrial atmospheres.

Installations can often cost less, too, when you take advantage of aluminum's light weight. Roof loadings are lower. Anaconda Aluminum can also show you how to get competitive advantages with other components of aluminum—end plates, fans, fin stock.

The exacting metallurgical control methods used by Anaconda Aluminum for fin stock have helped manufacturers of coils avoid many manufacturing problems. These same quality control methods, for all our sheet products, combined with customer-oriented service, may mean considerable savings in your manufacturing costs . . . equally important improvement in your products. Let us show you how! Call your nearby Anaconda Aluminum office or write to Anaconda Aluminum Company, Dept. AC-11, Louisville 1, Kentucky.

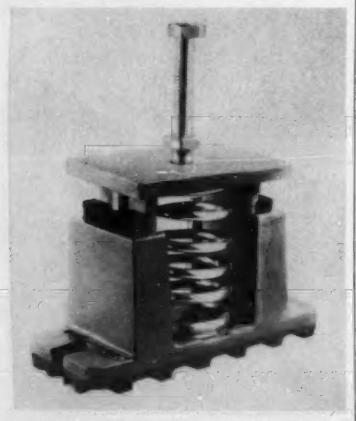
ANACONDA ALUMINUM

Offer Replacement Kit Of Heating Controls

● A new heating equipment, replacement controls service kit has been announced by Metals & Controls, Inc., a corporate division of Texas Instruments, Inc., Dept. AH&RN, 34 Forest St., Attleboro, Mass.

The kit, sold through heating trade wholesalers, provides the serviceman with an assortment of six fan switches and three hi-limit controls having appropriate temperature settings for many applications in warm air heating equipment, the company said. Thirteen detachable flanges in three varieties also are included in the kit. The flanges attach to all controls interchangeably.

Replacement controls and flanges, as well as other types of controls—such as manual reset and single-pole double-throw devices used as supplementary pieces for special applications—can be purchased separately.



Isolation Mount Cuts Installation Time

● A low cost, compact spring isolation mount claimed to cut equipment installation time and stop vibration, shock, and structural noise transmission, has been developed by The Korfund Co., Inc., Shock & Vibration Div., Dept. AH&RN, 53 A, Cantiague Rd., Westbury, L. I., N. Y.

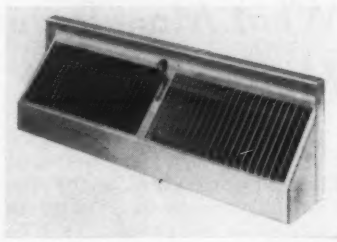
The Type LNAA mounting—an isolator utilizing a single helical coil steel spring as the "Cushioning" medium—is available in load-carrying capacities ranging from 50 to 540 lbs. This wide range is provided by a selection of four different springs which can be inserted into the isolator housing.

The cast semi-steel housing measures 3¾ in. by 3¼ in. by 5⅛ in., and has an access port on each side, which permits interior inspection, facilitates cleaning, and enables the spring to be changed in the field without dismantling the installation. Another feature is an external leveling device.

Want More Details?

ADDITIONAL details on products that are described on these pages may be obtained by writing the manufacturer at the address given in each What's New story.

Baseboard Diffuser Has 38 Sq In. Free Area



● A 15-in. wide baseboard diffuser has been introduced by Air Control Products, Inc., Dept. AH&RN, Coopersville, Mich.

Although the new diffuser takes less floor space than most floor diffusers, it has an available 38 sq in. of free area, the company said.

Adjustable fins are pre-set to blanket up to 13 ft of wall with a wide, fan-shaped pattern.

The diffuser face can be removed and replaced any time, making installation possible on either subfloor or finished floor, against the wall or plastered into it. Two built-in clips hold any 2¼-in. boot up to 14 in. wide firmly in place; no fitting or flanging is necessary, the manufacturer declared.

Filter Has Hexachlorophene Germ Killer

● Its "Dustgard" filters, used in furnaces and air conditioners, now contain hexachlorophene compound to fight germs for both cleaner and more healthful filtered air, according to United States Gypsum Co., Dept. AH&RN (122), 300 W. Adams St., Chicago 6, Ill.

The compound is applied to every filter in the new blue Dustgard filter core. Made of closely interwoven continuous glass fibers, the filters combine high dust-holding capacity with free air flow, the company pointed out in its announcement.

Carrier Bows Counterflow Furnace Line

● A new line of compact, gas-fired counterflow furnaces has been introduced by Carrier Air Conditioning Co., Dept. AH&RN, Syracuse 1, N. Y.

The AGA-approved units stand 51 in. tall, are 26 in. deep, and vary from 16$\frac{3}{16}$ to 20$\frac{3}{16}$ in. in width.

Three models of 80,000, 100,000, and 120,000 Btu output have a direct-drive blower powered by a permanent split capacitor motor which permits selection among four different blower speeds to vary air output. These units can be used with cooling coils for year-round air conditioning.

Three other models of the same heating capacities use a shaded-pole blower motor with a selection of three speeds to vary air output to house requirements. They can be used with a self-contained cooling unit in the Carrier "Thermo-Center" installation.

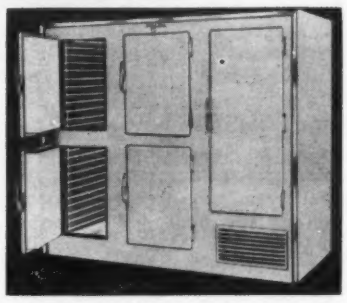
The furnace is designed for installations requiring reverse flow of air. It is suitable for distribution of air through floor outlets in homes without basements. The units have steel alloy burners, and slide-out blower assemblies.

C1504 Stepside Pickup *C1534 Fleetside Pickup*

R1205 Corvan

1962 CHEVROLET JOBMASTER TRUCKS ARE BUILT TO KEEP SAVING AND SAVING AND SAVING AND SAVING AND SAVING

Frigid Igloo Adds Economy Line



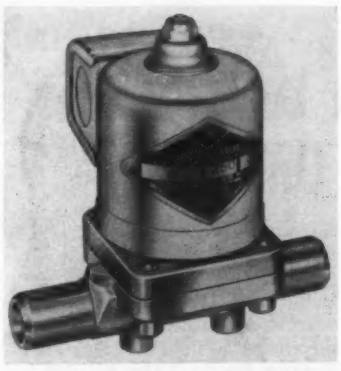
● A new "Economy" line of baked goods freezers, dough retarders, and reach-in refrigerators is being introduced by Frigid Igloo Mfg. Corp., Dept. AH&RN, 498 Nepperhan Ave., Yonkers, N. Y.

The line features "Acrylic," an exclusive steel gray metalized exterior finish on all steel cabinets.

Additional features include breaker strips between inner and outer liner to prevent conductivity and eliminate condensation; dial type thermometer; and heavy-duty tray slides that are easily removed for cleaning.

The line is available in 31 different models, remote and self-contained. Full length doors are operated by double-action handles; half doors have flush mounted hardware. All models are 33½ in. deep, 73½ in. high.

Adds Normally Open Solenoid Valves



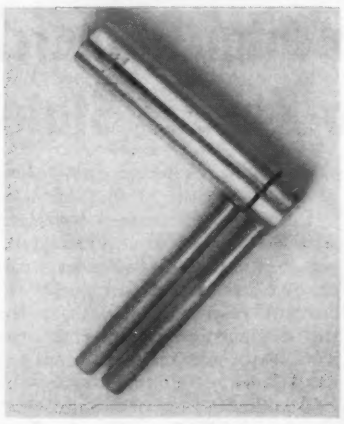
● "Normally Open" solenoid valves, specifically for use on Refrigerants-12, 22, and 500, are now being marketed by Jackes-Evans Mfg. Co., Dept. AH&RN, 4427 Geraldine Ave., St. Louis 15, Mo.

The complete line of "Normally Open" valves, with either a-c or d-c waterproof epoxy-clad coils, are available in port sizes from ¼ in. to 1¼ in. with either pipe or sweat connections.

"This new design answers the need for this type of valve on many refrigerant applications where valves of this type were previously unavailable," the company said. "Using a normally-closed valve on such applications made it necessary to use reversing relays to achieve a normally-open action."

These new valves have the same operating characteristics of "J-E" Normally Closed design, and most of the parts are interchangeable between valves of the same size.

Improves Nozzle Changer for Oil Burners



● A new, improved nozzle changer for oil burner servicemen has been introduced by the Heating Div., Delavan Mfg. Co., Dept. AH&RN, 811 Fourth St., West Des Moines, Iowa.

The changer will handle both ¾-in. and 11/16-in. adapters. The changer handles have been reshaped and lengthened and preliminary destructive torque tests indicate the handles will withstand torque up to 750 in. lbs.

Tags Identify Ducts, Show Damper Position

● New "DUCTags" to identify ductwork throughout the home have been introduced by Arklon Products Co., Dept. AH&RN, P. O. Box 3501, Cleveland 18, Ohio.

"Featured on a convenient new self-serve, easel-back counter display card, available from wholesalers, these new easy-to-read, pressure-sensitive labels (1) immediately identify the specific ducts for every room in the home and (2) indicate the damper positions," it was pointed out.

There are 55 permanent adhesive DUCTags on each single sheet, covering all basic rooms in the home, directional locations, and stars for damper positions. A large label is also provided with space for the dealer to stamp his own name, address, and phone number. Extra blanks are included for possible special needs or situations.

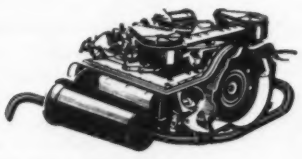
LOOK WHAT CHEVY'S GOT FOR '62...

MORE WAYS TO MAKE MORE MILES (AND MONEY)!

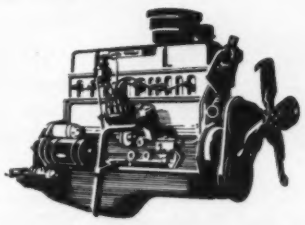
Matchless performers... matched to the job. That's what you'll find under the hoods of Chevrolet light-duty trucks for '62. More sure-saving power plants to choose from than ever before. New assurance of the *right* power for the job—power that does just what you want it to so that operating costs stay at a *low* low.

Standard in conventional models is the thrifty High Torque 235 Six, an engine that's powered more payloads than any other. *Then for heavier, harder working jobs that take more out of a truck, Chevy offers two great optional (extra-cost) engines for '62: the big High Torque 261 Six, available for the first time in this weight class, and the spunky High Torque 283 V8 with short-stroke design.*

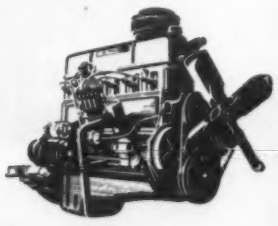
Add to this engine spread the space-saving High Torque 145 Six provided in Corvair 95 models and you've got a broad, all-purpose lineup that allows you to match the power to your type of work and nurse the last penny's worth of performance out of every operating dollar. Talk it over with your Chevrolet dealer soon. . . . Chevrolet Division of General Motors, Detroit 2, Michigan.



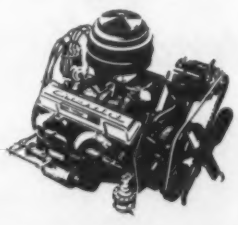
Compact High Torque 145 Six—air-cooled "pancake" design (only 17" high) saves space and minimizes weight by eliminating water jacketing, radiator, coolant and water pump. Gone for good are antifreeze and cooling system maintenance expenses. With fuel-saving valve-in-head design, the 145 Six develops 80 hp and 128 ft.-lbs. of torque—ample for brisk performance with big loads.



Rugged High Torque 261 Six—you get extra torque (235 ft.-lbs. of it) for extra tough pulls, *plus* proved 6-cylinder economy—available for the first time in Chevrolet light-duty trucks. Provides 150 hp and scores of reasons for efficient, cost-saving performance—forged steel crankshaft, high-alloy inlet valves, precision bearings, hard-faced exhaust valves with Rotocoils, to name just a few.

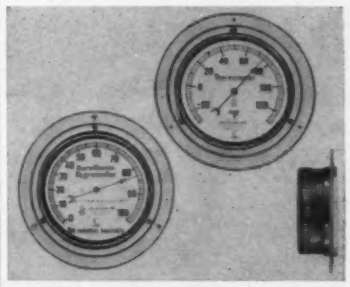


Popular High Torque 235 Six—the most widely used engine in the history of hauling with 235 cubic inches of lean-muscled efficiency. Standard in conventional models, the 235 Six delivers 135 hp and a load-moving 217 ft.-lbs. of torque. Premium-quality features such as forged steel crankshaft, aluminized exhaust valves, oil-bath air cleaner, and precision bearings add to engine durability.



Efficient High Torque 283 V8—made to order for runs that call for the extra punch of V8 power. Advanced short-stroke design knows how to nurse extra power and miles out of every drop of gas. 160 hp and 270 ft.-lbs. of torque get big loads moving quickly and efficiently. Top durability features include chrome-plated piston rings, Moraine 100 bearings and hydraulic valve lifters.

AND SAVING AND SAVING AND SAVING AND SAVING CHEVROLET



Make Two Instruments For Flush Mounting

● Abrax Instrument Corp., Dept. AH&RN, 179-15 Jamaica Ave., Jamaica 32, N. Y., has announced two new flush-mounted instruments for accurate measurement of temperature and humidity.

The new "Durotherm" hygrometer model No. AB2T and the new thermometer model No. TAB3T are designed for mounting flush with a wall or cabinet. The humidity and temperature measuring elements project through the cabinet or room wall to a depth of 1 in. and measure the humidity and/or temperature of the area on the other side of the wall. They are suitable for installation on the outside of air ducts, drying chambers, incubators, etc.

The hygrometer can be used in temperatures of up to 230°F and measures relative humidity from 0% to 100%. The thermometer measures from -30° to 130°. Price of the humidity indicator is $23.50 each; that of the thermometer is $23.50 each.

Outline Plans for Use

ASHRAE Environmental Research Laboratory Being Moved to Kansas State University

MANHATTAN, Kan.—Kansas State university announced that one of the world's largest and best equipped environmental research laboratories is being transferred from the present research facilities of the American Society of Heating, Refrigerating & Air-Conditioning Engineers (ASHRAE) to the university here for its Institute for Environmental Research.

The laboratory and its associated equipment represents a total investment of approximately $150,000, the announcement said. It will be housed in a $160,000 building for which the university recently received an $80,000 National Institutes of Health grant.

Under the agreement between ASHRAE and the university, it was explained, K-State will carry on several of the society's current research projects, with the society financing this research activity on a cooperative basis.

A number of other outside sources will be contributing substantial support to the research programs planned for the institute, said K-State President James A. McCain.

"This type of technical facility should have unusual value in attracting new industry to Kansas," McCain added. "The selection of Kansas State university for this program is a tribute to the outstanding research contributions in the environmental field by Dr. Ralph Nevins, head of the mechanical engineering department in K-State's School of Engineering and Architecture."

Nevins will direct the new institute.

Laboratory Described

The ASHRAE laboratory is a test room 12 by 24 ft in size. With its associated equipment including heaters, air conditioning units, fans, etc., it is possible to control temperatures on all six wall surfaces, as well as to control the temperature, humidity, movement, and cleanliness of the air.

The test room will be incorporated into the $160,000 addition to the engineering lecture hall which is now being planned to house K-State's Institute for Environmental Research. The laboratory is being dismantled and moved from its present location in Cleveland.

In addition to the ASHRAE-KSU environmental room, institute facilities will include an air-pollution laboratory, a biological heat-transfer laboratory, an instrument room, and office space.

"ASHRAE has operated its environmental laboratory for a number of years and just this past year completed a series of experiments to re-evaluate the ASHRAE comfort chart which was based on research done in the 1930's," it was pointed out.

"When ASHRAE decided recently to expand its research program and to close its research laboratory in Cleveland, it agreed to transfer the environmental laboratory to Kansas State university so that the environmental research program might be continued."

Nevins, an ASHRAE member, and other university researchers have been working on similar problems for a number of years.

A cooperative project between the university's mechanical engineering department and the American Society of Heating & Ventilating Engineers (an ASHRAE predecessor) was initiated in the late 1940's and a study of the effect of floor surface temperatures on comfort has been in progress since 1950.

As a part of this research, the university built a 10-ft cube psychrometric room several years ago. Current studies concerned with floor surface temperatures are supported with a National Institutes of Health grant.

K-State's willingness to carry on ASHRAE research work also was a factor. Nevins has been closely identified with this research program as a member of the ASHRAE research panel on physiological research and human comfort and he currently is chairman of the panel.

Plans

Research into environmental conditions is still in the exploratory stage, it was noted. The amount of research required, before a clear picture is obtained of the human response to all aspects of the environment, is almost boundless, Nevins points out.

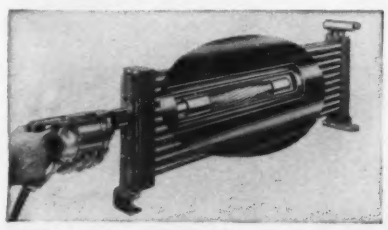
Among some of the K-State research projects being contemplated are studies for comfort under various levels of activity, effects of drafts, air pollution, and biological heat-transfer engineering problems.

The facility also will be useful for providing a constant environment for behavioral studies of psychologists.

"Here's why I always pick H & M water-cooled condensers

...you can clean them safely because you clean them mechanically!

"Time was when I used chemicals to clean out the scale and sludge in my water-cooled refrigeration systems. But soon I found out that the chemicals were doing damage not only to the condensers but the cooling tower and pump, too.



"Now I always buy Halstead & Mitchell Water-Cooled Condensers, because they can be cleaned safely with a simple mechanical tool and an ordinary electric drill. The end plates remove easily to expose the water tubes."

Another good reason to choose H & M condensers: they give more liquid sub-cooling because of the double-tube design and true counterflow of refrigerant and water.

There are five different types, including models for sea water or poor water conditions, in capacities of ⅓ to 25 tons.

Call your parts wholesaler for more information, or write for Bulletin WC-300. Halstead & Mitchell Co., Dept. H-111, Bessemer Building, Pittsburgh 22, Pa.

Water-Cooled Condensers • Air Handlers and Coils • Cooling Towers • Air-Cooled Condensers

Export Representatives: Sabal-Kielmann, Inc., 15 William St., New York 5, N. Y.

HM Halstead & Mitchell

PLAN TO BE THERE!

ATTEND EXHIBIT

12TH NATIONAL EXPOSITION AIR-CONDITIONING, HEATING & REFRIGERATION INDUSTRY

LOS ANGELES

FEBRUARY 12-15, 1962

For exhibit space, contact: Geo. E. Mills, Show Director, 1346 Connecticut Ave., N.W. Washington, D.C. • Phone COlumbia 5-0405

Purported Favorable Effects of Negative Ions on Behavior, Health Not Substantiated by Research, Engineers Told

By Frank J. Versagi

COLUMBUS, Ohio — "If ions can affect moods and behavior of human beings, in addition to having therapeutic value, what a tremendous market exists for ion-producing equipment."

This was the plum held before the eyes of engineers attending the annual technical conference of Region Five of the American Society of Heating, Refrigerating & Air-Conditioning Engineers recently.

R. A. Duffee, Battelle Memorial Institute, went on, however, to list and evaluate most of the major experiments and studies made with negative ions. His conclusion:

The present state of knowledge is not such as would warrant the installation of ion producing equipment in residences and structures.

As Duffee went through both domestic and foreign experiments in ionization, it became apparent to the audience that even the claimed therapeutic value of negative ions is questionable; certainly, the results of experiments so far conducted indicate no significant pattern as to the effect of negative ions on the moods and behavior of human beings.

The studies described by Duffee had to do with attempts to measure the effect of negative and positive ions on such things as reaction time, perception, endurance, and feelings of well being. Results were contradictory and insignificant; in some instances, people showed reactions to positive ions which had been expected for negative ions.

Russian Athletes Test Better after Exposure

One possible exception to the non-significance of most studies are Russian experiments in which athletes were exposed to negative ions in concentrations of one to two million per cc for 15 minutes a day. The Russian studies showed a 46% increase in the standard grip on a dynamometer and a 56% increase in endurance on a treadmill.

Duffee reiterated, however, that "90% of the study so far has been concerned with therapeutic value, rather than moods and emotional behavior. Some evidence has been gained that negative ions are effective in treatment of gout, rheumatism, arthritis, allergies, and in the elimination of the pain due to burns.

"Some studies also indicate that positive ions cause nausea, fatigue, and headache."

In passing, Duffee mentioned that air conditioning tends to reduce the total ion concentration in the atmosphere, but results in a preponderance of positive ions being left in the atmosphere.

Several theories have been proposed to account for the apparent effect of ions on the human body:

Electrical effect—this theory holds that the conductivity of body membranes and tissue is altered by exposure to negative or positive ions.

Chemical effect—general changes in body chemistry are attributed to ions. Another theory suggests that ionization changes the gases in the atmosphere so that they become physiologically active.

Hormonal effect—this theory holds that the secretion of hormones is altered in quantity and quality by exposure to either negative or positive ions.

Duffee listed several methods of generating negative ions: *Thermionic* generation involves the heating of a metal plate or wire to incandescence.

Ionizing radiation makes use of radioactive materials such as polonium or tritium.

Ultra-violet radiation makes use of conventional ultra-violet sources. A factor to be considered here is that ultra-violet radiation also generates ozone.

Corona discharge—here high voltage is applied to a fine wire or a point to generate the negative ions.

While the Russians have dealt with negative ion concentration on the order of one to two million per cc, most studies in this country have been in the tens of thousands, with a few studies using hundreds of thousands of negative ions per cc.

John Everetts, Jr., president of ASHRAE, was in Duffee's audience, and he described briefly a special room built for a Philadelphia hospital in which arthritic patients have been observed under varying conditions of temperature and humidity, and air pressure and ionization.

"As yet, there has been no significant effect attributable to ionization," Everetts stated, "but there has been evidence that the arthritic patients respond to rapid changes of air pressure. Apparently, they can adjust to any air pressure once it is maintained for a while, but rapid changes cause great discomfort."

Asked from the floor whether he would recommend the installation of negative ion generators in the home, Duffee offered that he would recommend such only for specific therapeutic reasons.

"Some tests show," he concluded, "that *complete elimination of ions can be helpful!*"

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

Proctor Appointed To Honeywell Post

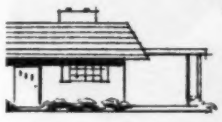
MINNEAPOLIS — Appointment of Charles Proctor as director of training for Minneapolis - Honeywell's Commercial division has been announced by John Haines, vice president of the division.

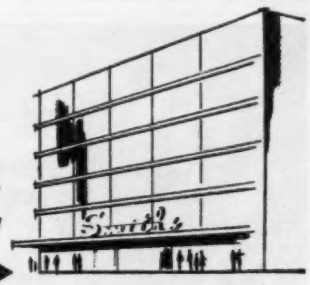
Proctor will coordinate sales, service, and installation instruction programs, which have been expanded because of new markets and products.

For the past nine years, Proctor has been commercial sales manager for the mid-Atlantic region. Replacing him will be Stanley Stake, Philadelphia branch sales manager for the past five years.

See how you profit because of the

Lennox WIDE RANGE





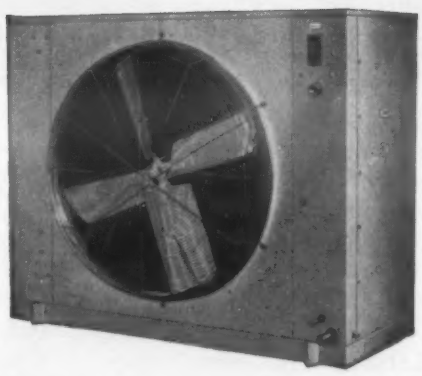
Full line of heating and air conditioning units... for every type and size installation

EXAMPLE

One Lennox series of air-cooled condensing units (HSA2) comes in 1½, 2, 3, 4, 5, 7, 11, 17 and 25 ton capacities.

2-TON

17-TON



Featuring:

- **Extremely high Btuh cooling per watt of power used because these units sub-cool refrigerant as much as 20° lower than condensing temperature.**
- **Low air resistance and low power costs because of huge coil, straight through air travel and exclusive Power Prop air mover. Quiet.**
- **Exclusive bonding of fins and tubes gives additional efficiency. Each coil is tested at 400 psi under water. Cabinets are acoustically lined; treated to fight corrosion.**

The Lennox dealer is not confined to a short line—and he doesn't have to handle two or three brands in order to get *quality* equipment for all his needs.

What does this mean to you as a dealer? First, it simplifies many of your business problems. It also helps you build a stronger "image" in your community. Even more importantly, it enables you to compete on the bigger heating and air conditioning jobs (with factory field men to assist you).

The Lennox line includes gas, electric, coal and oil heating systems, heat pumps, dual-fuel industrial heaters to 2,000,000 Btuh—and whisper-quiet air conditioning units up to 25 ton size.

So if this is your year of decision—the time to make the big change for your big future—you'll find the profit signs all point to Lennox. Get the complete story—without obligation. Write your nearest Lennox factory or Lennox, 414 S. 12th Ave., Marshalltown, Iowa.

Don't be satisfied with less than

LENNOX

HEATS, COOLS, TREATS AND MOVES AIR

LENNOX Industries Inc., est. 1895—Marshalltown, Des Moines, Ia.; Columbus, O.; Syracuse, N.Y.; Decatur, Ga.; Ft. Worth, Tex.; Salt Lake City, Utah; Los Angeles, Calif. LENNOX Industries (Canada) Ltd.—Toronto, Montreal, Calgary, Vancouver, Winnipeg

TECH CENTER

by
FRANK J. VERSAGI

TESTING LABORATORIES: *ETL*

This is one of a series of articles discussing testing laboratories of several types. Due to increased activity with certification programs, complaints about delays in safety and performance testing, and repeated suggestions that the heating-cooling industry should set up its own independent testing laboratory, NEWS readers have requested an analysis of the role that existing laboratories are playing in the heating-cooling industry.

NEW YORK CITY — Electrical Testing Laboratories issued its first air conditioning report in 1934. Today, visiting the laboratories, the NEWS saw in near completion two enlarged and remodeled facilities for air conditioning testing:

1. A facility for testing room units capable of handling cooling capacities from 3,000 to 36,000 Btu, costing an estimated $70,000;

2. A facility for testing unitary equipment to 135,000 Btu, costing approximately $100,000.

These are balanced ambient calorimeters. Both facilities make readings on the secondary side and on the primary side.

How did it happen that Electrical Testing Laboratories is so deeply involved in air conditioning performance testing? What bearing has this independent laboratory's activities on suggestions which have been made in the air conditioning industry that the industry, itself, set up testing laboratories?

It happens that ETL is the testing group for both the certification programs of Air-Conditioning & Refrigeration Institute and the National Electrical Manufacturers Association. But, ETL's participation in these programs is more a recognition of its previous activity in air conditioning than a grant from the industry.

For many years, according to Hoffman Beagle, president of ETL, the laboratory has been testing air conditioners for individual manufacturers. These tests were both of the manufacturer's own make and of competing brands which he wanted evaluated.

ETL In World Trade

One very large project with which ETL is associated, and which has overtones of world trade, is in its role as intermediary between the government of Kuwait and American manufacturers who supply that country with air conditioners.

As explained by Earl Gmoser, supervisor of appliance testing, each year some 2,000 to 2,500 room units are ordered by the government of Kuwait. That government has specified that no unit will be accepted unless it has passed ETL performance tests.

To back up Kuwait's confidence in its program, ETL inspects every unit which is to be shipped to that country and gives complete performance testing to one of every 200 units.

In practice, several manufacturers usually bid on this contract; the equipment must be 50 cycle and designed for the conditions peculiar to Kuwait; but even bids will not be accepted unless the prototype unit has been tested by ETL. Kuwait has set up ETL in a similar position on such things as water coolers and refrigerators.

The program is now in its fourth year, according to Gmoser. The government of Kuwait pays for all of ETL's work, except for the pre-tender testing which is paid for by the manufacturers.

By 1954, according to President Beagle, ETL already had a wealth of experience and background in air conditioning testing. Also, the organization sensed that the air conditioning industry was reaching the point where it would need independent appraisal of its products. So the laboratory built its first expensive testing facilities, along present lines, even before contracts for such testing came in.

Psychrometric, Calorimetric Testing Compared

"It must be remembered," explained Gmoser, "that until that time, most testing of room units was psychrometric testing, rather than calorimetry. I would estimate that at least 75% of the industry used psychrometric testing.

"Your readers may be aware that such testing gives the gross capacity, not the net capacity of a unit. For example, a simple thing like a certain amount of short circuiting of air from a room unit will deduct from the cooling capacity it can deliver to the occupied structure.

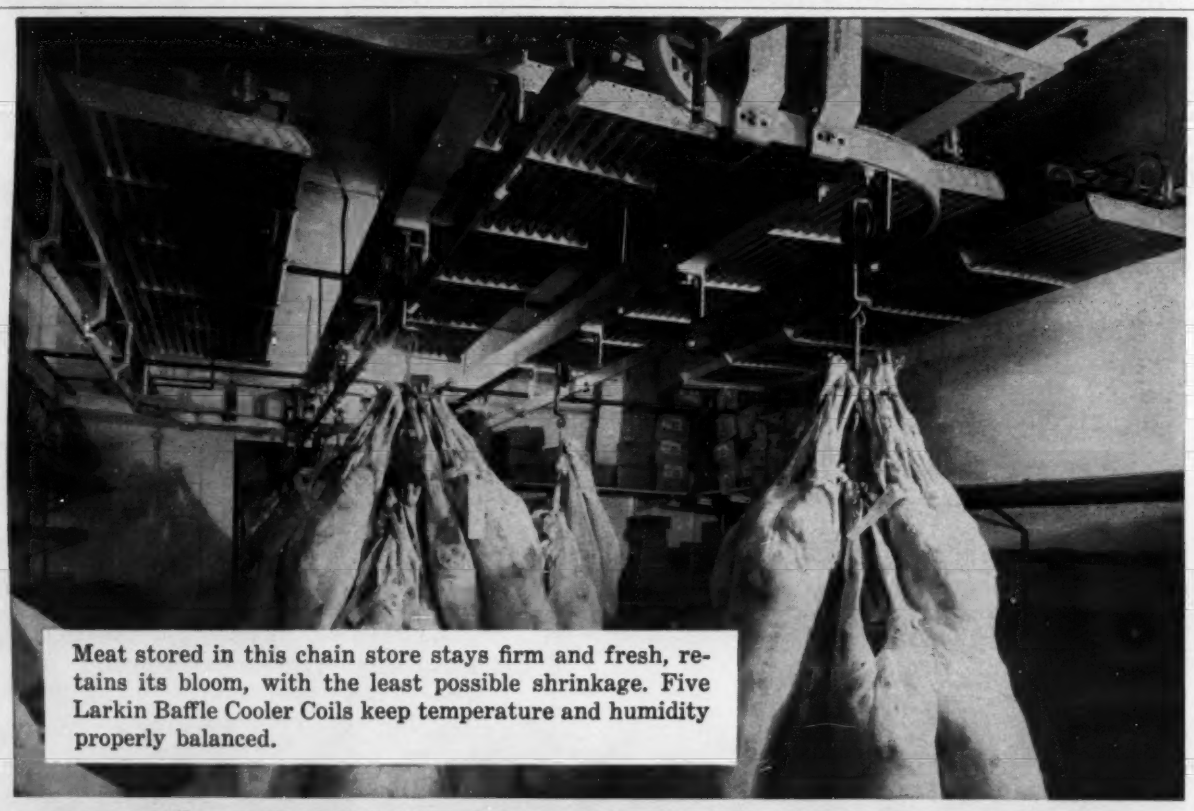
"In the test procedure by psychrometic methods, a duct was placed over the supply air grille so that this natural short circuiting did not occur and the measurement of cooling capacity was therefore greater than would be delivered in normal applications."

New Facilities Follow ASHRAE Standard 16

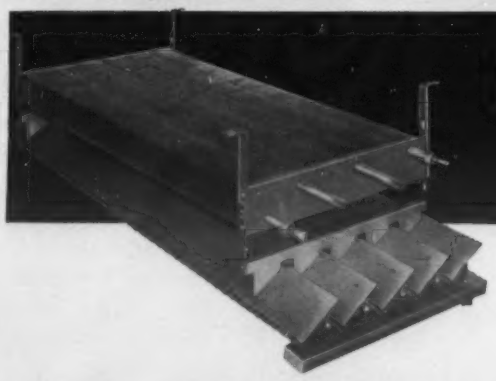
ETL's new testing facilities follow ASHRAE Standard 16. The newest balanced ambient calorimeters are being designed to incorporate changes which have been made in this standard and which will appear soon in a revised edition.

The new facilities, according to Gmoser, make allowances for variation in air changes as unit capacities vary. Maintaining its own generation and transforming facilities, ETL can provide any one of the many frequencies involved in domestic, foreign, and military applications. Further, any combination of voltage and frequency can be supplied.

As a result of its extensive activities in air conditioning, Beagle said, ETL personnel have already visited the premises of almost all room air con-



Meat stored in this chain store stays firm and fresh, retains its bloom, with the least possible shrinkage. Five Larkin Baffle Cooler Coils keep temperature and humidity properly balanced.



LARKIN baffle cooler coils keep meat in top condition

OUTSTANDING FEATURES

- Patented Larkin cross-fin coil with aluminum fins and staggered, electro tin-plated, copper tubes, mechanically expanded.
- Baffles are constructed of heavy-gauge, polished aluminum.
- Coil and baffle hangers are heavy-gauge die-stamped aluminum channel punched with keyslots for easy attachment.
- Matched baffles for left and right sides furnished if specified.
- Special-sized baffle cooler coils are also available.

Smart retailers look to the refrigeration contractor-dealers for systems that keep meat in the best possible condition—firm with good bloom, minimum shrinkage. Such meat sells better without wasteful trimming, hence yields more profit.

Let us show you the astonishing graphic results we have obtained under actual applications with Larkin Baffle Cooler Coils.

See your wholesaler or write for Bulletin 1057.

WATCHDOG OF THE NATION'S FOOD AND COMFORT — LARKIN COILS

LARKIN COILS INC.

519 Memorial Drive, S.E. • P. O. Box 1699 • MUrray 8-3171

ATLANTA 1, GEORGIA

ditioner manufacturers in the country, as well as the premises of perhaps half of the manufacturers of unitary equipment.

Because of ETL's participation in the NEMA and ARI certification programs, there is a tendency toward standardization of testing facilities throughout the industry that would not have occurred without this surge of interest in certification programs, ETL's president said.

"It is significant, I believe," said Gmoser, "that our testing people, themselves, are responsible for the tests they conduct. These same people work directly with the client and the client's representatives. On air conditioning programs, we now maintain 10 people and we are set up for a three-shift operation."

Gmoser explained that during testing of units involved in the certification programs or during the testing of competitive units, sponsoring individual members are not allowed to visit the laboratories while the tests are in progress.

When a manufacturer's own unit is being tested and has been found wanting in some regard, the manufacturer's representative is allowed on the premises to make any authorized changes or observations.

Asked if increasing emphasis on certification will reduce the amount of testing of competitors' products, Gmoser answered that for a while at least he does not feel that this will be in effect. In addition, he explained, ETL does much testing of manufacturers' own products when they develop new lines and new models.

What About Industry Setting Up Own Testing Facilities?

Inevitably, the conversation with Gmoser and Beagle got around to repeated industry suggestions that the industry, itself, set up an industry-owned-and-operated testing laboratory which would do nothing but test air conditioning and refrigeration equipment for performance and safety.

The arguments cited for the need for such a laboratory are that the industry is growing so rapidly that no existing laboratories are capable of handling the increased load and that the delay in getting results is proving to be harmful.

Understandably supporting the role of independent testing laboratories, Beagle nevertheless cited what he feels are objective obstacles in the way of such an independent, industry-controlled laboratory.

Problems Cited

"First," he said, "consider the cost. We have already indicated that we are spending some $70,000 on our room unit calorimeter. In the NEMA certification program, we are also setting up manufacturer-owned testing facilities as checking points.

"Should the industry desire to set up its own functional laboratory, it would have to, in effect, house six, seven, or eight complete calorimeters.

"It would have to find trained personnel to operate these testing facilities to make the results significant and meaningful. It would have to be able to guarantee itself a continuing demand for these facilities; lacking that, it would have to subsidize the facilities when they were not being productive.

"ETL has gone on record as saying that if the air conditioning industry will assume contractual obligations for amortization of investment, we will set up whatever facilities the industry feels are needed."

The ETL president said that the Laboratories have been approached by a group of West Coast manufacturers over the possibility of setting up a West Coast ETL operation to save the money, time, and inconvenience involved in shipping units completely across the country for testing.

While ETL does perform safety testing on other products, its activities for the air conditioning industry have so far been limited to performance testing. Underwriters Laboratories, on the other hand, tests exclusive for safety, but does little or no performance testing.

Another advantage for an industry in going to an independent testing laboratory, such as ETL, according to Beagle, is that the independent testing laboratory works on everything from impact loading of baseball helmets to testing of light sources, switching gear, optical instruments, and microwave equipment.

Thus it has at its disposal a fund of knowledge much of which can be transferred to testing programs and consulting services rendered to this specific industry.

While Beagle was unwilling to name potential sponsoring organizations or clients, the NEWS understands that ETL is being considered for an expanded program of performance testing on heating equipment of one or more types. In the past, ETL worked closely with the Institute of Boiler and Radiator manufacturers on wet heat tests.

The laboratories also conduct tests on air filters. "We use both Air Filter Institute and National Bureau of Standards test methods in our work," indicated Gmoser.

Certification Is Not Sold; It Is Bought

"You must realize," expounded Beagle, "that certification is not sold; it is bought. An industry must come to feel a real need for some sort of representation to the public which will enhance the acceptance of its products.

"For this reason, we do not actively solicit business of this sort. When people are ready for certification programs, we are among the group they consider."

ETL has a strict policy of not allowing its seal to be used in competitive advertising. While in some cases, it is ETL, itself, which makes the representation to the public, in both the NEMA and ARI cases, the sponsoring groups make the representation to the public. ETL merely does the testing.

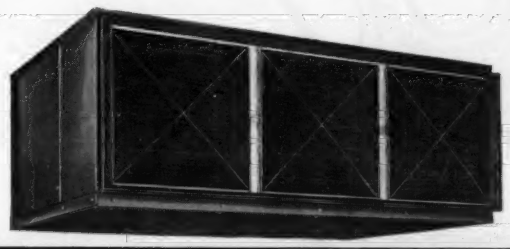
Incidentally, ETL is now in the process of air conditioning more and more of its own testing facilities in all its departments. For each department, ETL engineers design and install whatever system is necessary to maintain required conditions in that department.

Next in this series: United States Testing Co.

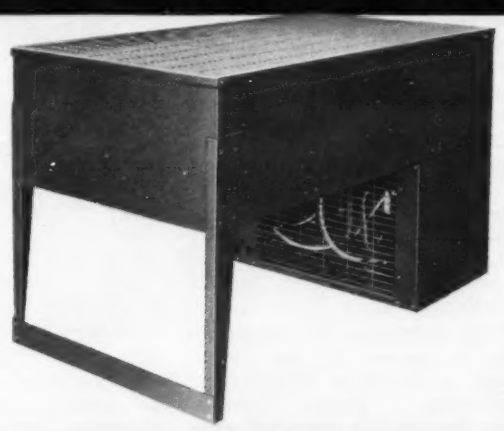
NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

NOW... Luxaire®

Light Commercial and Industrial



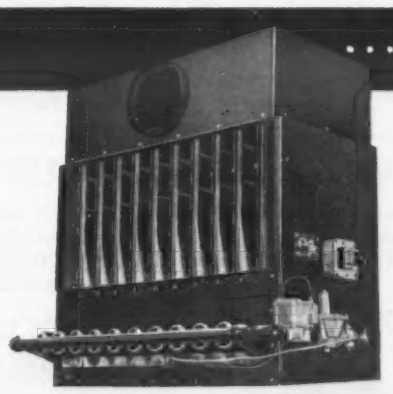
AIR CONDITIONING...



Blower-Coil Air Handling Unit — 8, 9 or 10 Ton — Available now, A.R.I. Certified: 93,000 or 114,000 Btuh with one 8 or 10 Ton Condensing Unit — 93,000 or 114,000 Btuh with two 4 Ton or two 5 Ton Condensers — 103,000 Btuh with one 4 and one 5 Ton Condensers. Heavy construction, uncomplicated design. Twin Blowers for high air deliveries. Standard equipment Filter Rack and High Velocity Filters. Weld Nuts for easy suspension.

Air Cooled Condenser-Compressor Units — 8 and 10 Tons — 8 Ton size available now, A.R.I. Certified. Compressor Section shipped separate from Condenser Section — each with holding charge and mating connectors. Easily installed on roof or at grade level. Upward Condenser discharge at low velocity from Twin Fans having "Mild Weather" Control. 16 Gauge Zinc Coated Cabinet and Plastic Coated Grilles for outdoor installation. 10 Ton size available March, 1962.

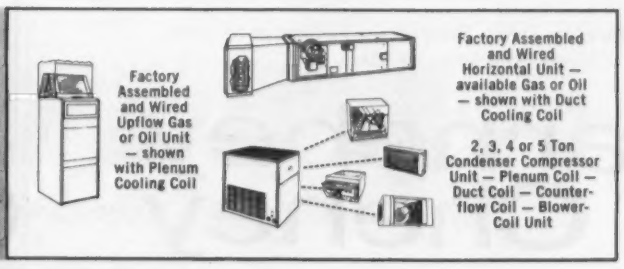
...HEATING FOR '62



Gas Fired Duct Heaters — 100,000, 150,000, 200,000, 250,000 Btuh — Available January, 1962, A.G.A. Approved for installation downstream from cooling coil. Aluminized Steel Heating Element and Condensate Drain. Gas Controls on either side. Manifold on one end and Flue Outlet on opposite — or both on same end. Weld Nuts for easy suspension. Unexcelled for combination with new Luxaire Air Handling Units.

SEE YOUR LUXAIRE DISTRIBUTOR, TODAY!

Luxaire
THE C. A. OLSEN MFG. CO.
ELYRIA, OHIO


Factory Assembled and Wired Upflow Gas or Oil Unit — shown with Plenum Cooling Coil
Factory Assembled and Wired Horizontal Unit — available Gas or Oil — shown with Duct Cooling Coil
2, 3, 4 or 5 Ton Condenser Compressor Unit — Plenum Coil — Duct Coil — Counterflow Coil — Blower-Coil Unit

Coleman Announces Winners In 'Get In the Bucks' Contest

WICHITA, Kan. — A selling experience reported by Jerry A. Caplan, Springfield, Mo. heating and air conditioning dealer, has been judged the best entry in the Coleman Co.'s "Get In the Bucks" contest.

Caplan, a partner and sales manager in the Karchmer Co., Springfield Coleman dealer, has been awarded a $1,000 U. S. savings bond for his winning letter in the national contest.

Second prize, a $500 bond, went to Claude F. Allison of the Charlie Wilkerson Gas Co., Pensacola, Fla.

Winner of third prize is Sam E. Love, Comfortaire, Inc., Nashville, Tenn. Love was awarded a $100 bond.

The contest was for the best report on "Air Conditioning Sales I've Closed with the Coleman $500 Warranty Bond."

Entries were judged by the editorial staff of a business paper serving the heating and air conditioning field.

A Coleman official said the contest proved that "good imaginative selling of a product with demonstrable quality will overcome the offer of the competitor with the low, low bid."

"In most every case, the successful salesman reported he had made a careful appraisal of cooling requirements, had given an adequate explanation of the equipment recommended, and had emphasized the qualifications of both the manufacturer and the installing dealer," declared Jess L. Moore, Jr., vice president and general manager of the Coleman Heating & Air Conditioning Div.

WINNER of the top award in the Coleman Co. "Get in the Bucks" Contest is J. A. Caplan, Springfield, Mo., air conditioning salesman, shown here receiving the congratulation from Coleman's vice president and general manager, Jess L. Moore, Jr., left. Caplan's prize is a $1,000 U.S. savings bond. A duplicate award was presented to Dick Harris, right, Coleman district sales representative for southwest Missouri.

"When these essential steps were taken, the introduction of the bonded warranty proved to be a deciding factor," Moore commented.

Ten other contestants were given honorable mention. Each will receive a Coleman "Snow-lite" food and beverage cooler. They are:

M. D. Glazier, Wilmington Plumbing Supply Co., Wilmington, Del.; J. E. Seacord, Allen-Seacord, Inc., Greenville, S. C.; Sidney Guignard, Climate Control, Knoxville, Tenn.; T. C. Davis, Jr., Carson Davis & Son, Raeford, N. C.; A. Grau, Grau's Plumbing, Heating and Air Conditioning, Los Angeles.

William McKenna, Texas Home Service Co., Ft. Worth; Fred Card and Bruce Lester, Grand River Heating & Air Conditioning, Saranac, Mich.; William L. Arnold, Horrell & Son, Inc., Sacramento, Calif.; William L. Johnson, South Kansas City Furnace Co., Kansas City, Mo.; and Glenn H. Rojohn, Rojohn Co., McKeesport, Pa.

Merrick Heads Sales For Norman Products

PHILADELPHIA — The appointment of Joseph J. Merrick as vice president in charge of sales for Norman Products Div., John J. Nesbitt, Inc., manufacturer of heating, ventilating, and air conditioning equipment, was announced by Albert J. Nesbitt, company president.

J. J. Merrick

Aside from a five-year hitch with the infantry during World War II, Merrick has been employed continuously by Nesbitt since 1935.

Starting in the plant, he rose in the company from a draftsman in the Engineering Dept. to manager, Sales Order Dept., then product manager, and finally division manager for Nesbitt heating and air conditioning products in the commercial, industrial, and residential markets.

Nesbit acquired the Norman Products Div. in the fall of 1960 and since that time has added some 32,000 sq ft of manufacturing space to its facilities. Nesbitt recently consolidated all its manufacturing facilities for gas-fired products in the Norman Div. in Columbus, Ohio.

Albuquerque Distributor Moves Headquarters

ALBUQUERQUE, N. M.—Air Conditioning Equipment Co., Inc., wholesale distributor for Carrier air conditioning, heating, and ice making equipment, has moved its Albuquerque offices from 1613 Second N.W. to new and larger quarters at 1325 Twelfth N.W., it was announced recently by Burton Faigen, general manager.

The new offices are situated in the company's warehouse location, enabling it to render one-step service to its dealer and contractor customers, Faigen said.

Air Conditioning Equipment Co. has also announced the sale of its contracting subsidiary, Comfort Air Service Co., to Charles W. Soltis, effective June 30, 1961.

Soltis is president of Comfort Air Service Co.

The sale leaves Air Conditioning Equipment Co. free to engage in wholesale distribution, according to Faigen. Comfort Air Service Co. operates as a contracting dealer, engaged in the retail sale, installation, and service of heating and air conditioning systems, it was pointed out.

Death Notices

Arthur G. Stenman

DENVER — Arthur G. Stenman, 50, owner of A & J Refrigeration Co., died recently after a long illness.

H. F. W. Rasmussen

NEW ORLEANS — Hans F. W. Rasmussen, 77, who handled air conditioning work for several downtown business stores and buildings prior to World War II, died recently at his home following a brief illness. During the war, he installed and serviced cooling equipment for several U. S. ships.

Perry Berlin Campbell

BUFFALO — Perry Berlin Campbell, 62, an executive of the Buffalo Forge Co. for 35 years, died recently.

He was recognized for his many contributions in the design and construction of ventilating equipment for the Navy and maritime ships.

Campbell was instrumental in the installation of air handling equipment in a variety of industrial facilities.

J. R. Lewis Manages New Hillside, N. J. Office for Dunham-Bush

WEST HARTFORD, Conn. — Dunham-Bush, Inc., announced that J. R. Lewis has been appointed manager of a new sales office established in Hillside, N. J.

A company spokesman stated that a greatly increased tempo of sales consultation activity for air conditioning and refrigeration in northern New Jersey necessitated opening the new facility.

Lewis, a 30-year industry veteran, will serve as D-B liaison with consulting engineers and contractors. He will be assisted by T. W. Kuklis who will handle product relations and original equipment manufacturers in the area.

Lewis formerly held a number of offices for Carrier Corp., according to the announcement.

Using the positive
gas mask principle
ACTIVATED CHARCOAL
is the most versatile
air purifier.
Barnebey-Cheney is the only
manufacturer of ALL types of
activated charcoal filters.
Activated charcoal
is our business.
We can make it work for you.

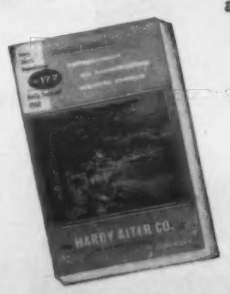
	standard designs	special designs	custom designs
Home appliance filters	✔	✔	✔
Commercial filters	✔	✔	✔
Home filters	✔	✔	✔
Self-contained units	✔	✔	✔

Ask for literature T-385. Send us your problem to solve.
Barnebey-Cheney, Columbus 19, Ohio.

Barnebey Cheney

WE EXPAND YOUR DOLLARS MIGHTILY

Sure, everybody likes to make a buck go farther. At the Harry Alter Co. we think our prices are *always low*. And everybody big or small, city or country, pays the same fair price. Our transportation allowance saves you even more money. (And if you pick up at one of our 6 counters, you still get this allowance.)



We're Real Specialists in
REFRIGERATION • AIR CONDITIONING • ELECTRIC MOTORS
SUPPLIES and PARTS

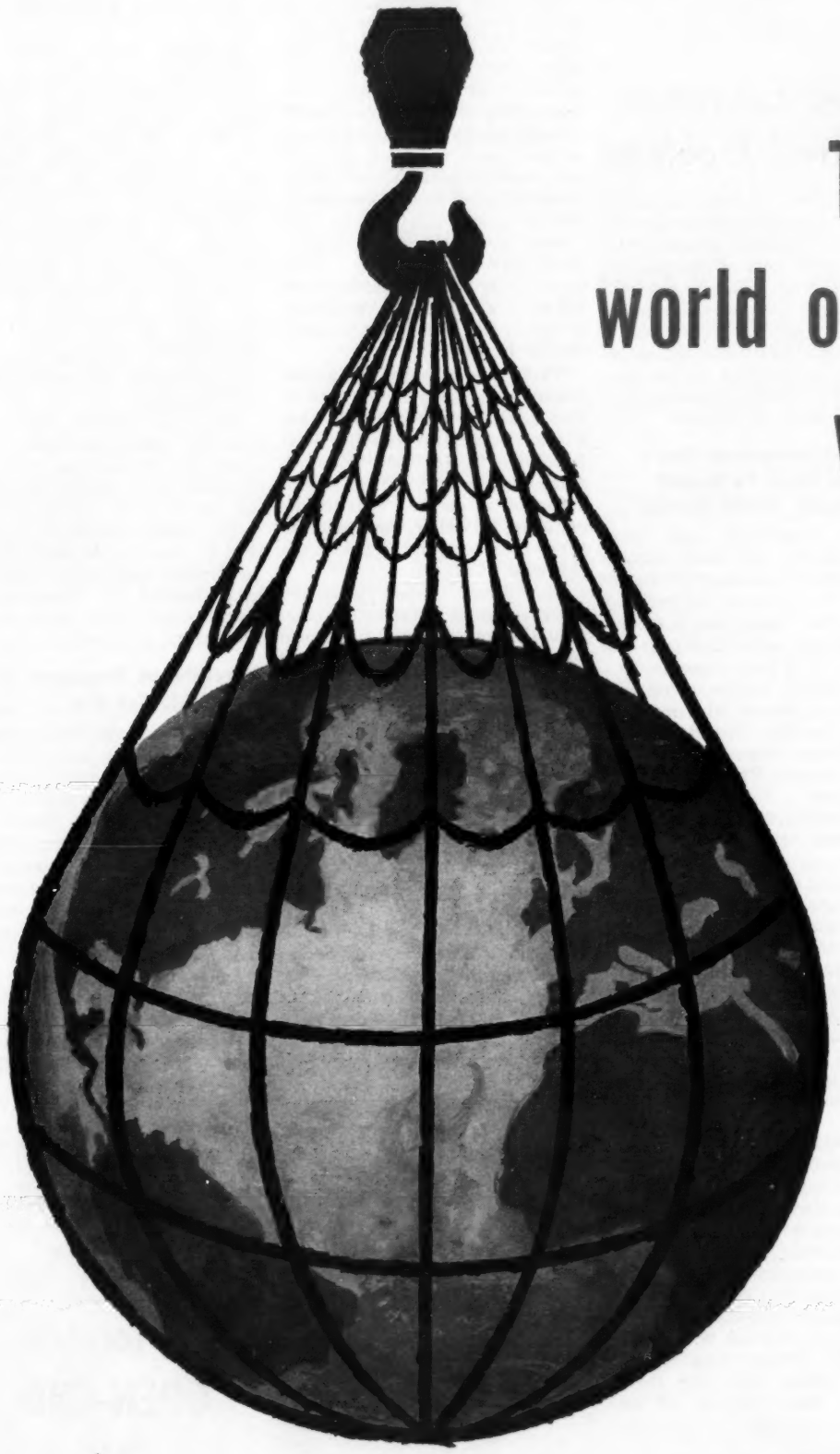
SAVE MONEY, time and effort by ordering from our new *Dependabook* the most complete catalog of all. 256 pages. Over 10,000 items carried in stock. *Wholesale only.* Your orders filled really fast by mail, or they can be picked up at one of our six big warehouses.

Write on your letterhead for the 1961 DEPENDABOOK . . .
Also our monthly Flyer of surplus and close-out Bargains.

THE HARRY ALTER CO., INC.

2399 S. Archer Ave. Chicago 16, Ill. | 134 Lafayette St. New York 13, N.Y. | 2332 Irving Blvd. Dallas 7, Texas | 695 Stewart Ave., S.W. Atlanta 10, Ga.

FREE PARKING AND FAST COUNTER SERVICE AT THESE 4 BIG WAREHOUSES



There's a world of business waiting for your company overseas.

NOW! the NEWS provides you with expanded opportunity to sell the growing world market for air conditioning, heating and refrigeration products.

Based on the overwhelming success of NEWS' annual World Trade Issues, we are designating the

December 18, 1961 issue

April 16, 1962 issue

December 17, 1962 issue

for special World Trade Emphasis, in addition to the annual

WORLD TRADE ISSUE

August 6, 1962

Make the most of this opportunity . . . schedule advertisements in each of these issues beamed directly to NEWS' foreign subscribers in 83 nations. The free world is one market . . . let your company grow with it.

Act now . . . Advertising for the December 18, 1961 issue closes December 6, 1961.

NEW YORK, 521 Fifth Ave., MUrray Hill 2-1928-9, Robert M. Price
CHICAGO, 134 S. LaSalle St., FRanklin 2-8643-4, Rex Smith
LOS ANGELES, 4710 Crenshaw Blvd., AXminster 2-9501, Justin Hannon
DETROIT, 450 W. Fort St., WOodward 2-0924, Al Schildhammer

AIR CONDITIONING
HEATING & REFRIGERATION
The Newspaper of the Industry
NEWS

RESIDENTIAL • COMMERCIAL • INDUSTRIAL

450 WEST FORT STREET • DETROIT 26, MICHIGAN

Is Silver Shield Successful?

Growth In Number of Bureaus, Intensified Education Are Good Signs In Spite of Some Admitted Problems

(Continued from Page 1, Col. 5)

gins, in many instances, virtually disappeared for manufacturers and contractors alike.

How come?

There are many opinions as to why this happened, and few people agree.

It is very definitely true, however, that the heating industry has hardly been noted for salesmanship, with one possible exception. Lack of salesmanship has not been limited to the heating industry in the past 15 years, but this lack has most certainly contributed to lowering of prices and profits.

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

That there wasn't much salesmanship is, at first thought, lamentable, but it's just possible that it may have been a good thing for the heating industry in the long run. For the truth is that the heating industry, as a whole, hasn't really had much to offer.

Manufacturers do produce quality products, and many try to push them, but in recent years there has been increasing emphasis on "builder models." The latter are definitely not top quality. They're strictly designed and manufactured for price. Whether "builder models" are good or bad for the heating industry and its customers is chiefly an academic question. They will continue to be produced, for obvious reasons, and they do serve a purpose.

'Many Contractors Don't Know How To Install A Really Good System'

What seemingly has been overlook, or at least played down, are two important facts:

(1) The furnace, or, for that matter, the boiler, is a most important part of a heating system, but it is only a *part.*

(2) Many heating contractors, both warm air and hydronic, couldn't install a really good system even if price were not a factor. They just don't know how.

Essentially, the problems arising from these two circumstances are what Silver Shield and, to a considerable degree, the efforts of the Better Heating-Cooling Council, are aiming to correct.

(While it is true that BHC efforts include an educational program in the hydronic field, an important goal is to recapture at least some of the market that has been lost to warm air through the past 20 years or more.)

No manufacturer of heating equipment can or will claim that his "package" unit will provide quality heating if it isn't properly applied.

There may very well be adequate capacity (usually too much capacity) in a top quality furnace or boiler, but if the system is plagued with poorly designed and/or installed ductwork, piping, etc., the results will be disappointing, at least to the consumer.

Couldn't Manufacturer Control This Problem?

Couldn't the manufacturer control this problem? Theoretically, he should be able to, but in actual fact it's an extremely difficult proposition in a highly competitive market.

If a heating manufacturer limited his distribution to only those dealers who were fully qualified to sell and install top quality systems, his sales would hardly begin to absorb the output that is possible, or rather, demanded, by today's production techniques.

Therefore, many manufacturers have resorted to dealer education. They devote much time, effort, and money to the preparation of educational materials, conducting of schools devoted to system design, installation, and service, and to sales training and management. This is most commendable. It has been helpful.

But such dealer education does have one basic shortcoming. A manufacturer could hardly even think of "flunking" a dealer-student. The reasons should be obvious.

There are so many recognized brands of heating equipment on the market, for example, that a contractor can readily shift from one to another. Thus, no manufacturer can afford to antagonize a dealer. This is no criticism of either the manufacturer or the dealer. That's just the way it is.

The Silver Shield program, however, does educate contractors through the local licensed Indoor Comfort Bureaus, and dealers can be flunked. Some of them are.

No doubt the contractor who fails a "Silver Shield" examination will be unhappy, perhaps extremely annoyed. He may swear at and off Silver Shield. But he's not going to switch brands!

Are Many Contractors Deficient In Knowledge?

Is this education really necessary, though? Are there that many contractors deficient in knowledge of how to install a really good heating system?

The answer would seem to be "yes."

Perhaps initial proof was documented by field studies conducted for NWAHACA. Further evdence turned up in the experience of the Kalamazoo (Mich.) Indoor Comfort Bureau, which courageously pioneered Silver Shield.

A simply tremendous amount of effort was put forth by the dozen contractors in Kalamazoo to get the ball rolling, and they had the encouragement and guidance of the staff from NWAHACA headquarters, certain members, and other active well-wishers.

After the tumult and shouting had died, however, there came the realization that few of these enterprising, far-thinking contractors could design a Silver Shield system—a system, that is, that would meet the requirements for comfort that had been proved by intensive research over many years at the University of Illinois.

Educational Program Quickly Set Up

So, an educational program was quickly set up. Since the Kalamazoo experience, an educational program has been a vital part of Silver Shield.

Why this lack of knowledge?

There are many reasons, too many, in fact, to be catalogued here. An important one, we believe, is that heating is a necessity, not a luxury. Many consumers are willing to pay more for, and expect more from, a luxury item than a necessity.

Another oft-mentioned fact is

H&H
is fully equipped to control tube and parts quality
Better Brass and Copper Products Since 1930
H & H Tube and Manufacturing Co.
240 N. Forman Avenue · Detroit 17
VI 2-3600 · Offices Coast to Coast
Brass and Copper Tubing and Parts

NOW! MAKE YOUR OWN V BELTS WITH JUST A SCREWDRIVER!

New Perforated OPEN-END "V" Belting

NO EXPENSIVE TOOLS, JIGS, ETC. NEEDED!
• • •
BUY YOUR "V" BELTS BY THE FOOT . . . AT MUCH LOWER COST!

AVAILABLE IN SIZES O - A - B - C
FITS STANDARD SHEAVES
GREATER HORSEPOWER, LESS VIBRATION, LESS STRETCH, LONGER LIFE

Catalogs and Samples available

ROCKWOOD PULLEY MFG. CO., INC.
20 CROSBY STREET NEW YORK 13, N. Y.

SAVE
DRYERS
- 2 cu. in. of PA-400 Silica Gel
- Complete acid removal
- Low end-point drying

STRAINERS
- Almost 2 sq. in. of 150 mesh monel

Special design makes installing, adjusting, and servicing a "one-stop" job!

CAP TUBES give perfect results "as is" for all units to ⅓ H.P., freezers to ½ H.P., and water coolers to ¼ H.P.

FOR BEST RESULTS specify No. 698-S2/F2 Strainer-Cap tubes and No. 699-S2/F2 Dryer-Cap tubes.

SPECIAL COMBINATIONS are available for use up to ¾ H.P. for R-12 and R-22.

Write for information to- WABASH CORP. / 2300 S. Western Ave., Chicago 8
EXPORT DEPT.
13 E. 40th St., New York 16, N.Y.

that increments in heating capacity are inexpensive, certainly as compared to summer cooling. The next size larger furnace or boiler costs very little more, so why bother with really accurate heat loss calculations, or truly ideal distribution?

This type of thinking seems to be borne out in the results of examinations that have been given to local Indoor Comfort Bureaus in recent months. The results, as disclosed by NWAHACA officials, seem to indicate that better scores, and more of them, are being achieved by dealers who've had more experience with summer cooling.

It would be ridiculous to claim that air conditioning contractors are basically smarter than heating contractors. And it would be most unrealistic to claim that every summer cooling installation is perfect while every heating system is lousy.

But it is a fact that economics require a cooling system to be figured much more closely than a heating system.

Shield Emphasis Has Been on Heating

Close calculations of heat loss usually permit smaller and slightly less expensive furnaces to be installed, of course, but that's not the chief aim of Silver Shield. Rather, the object is better heating systems. (Summer cooling is also an important phase of Silver Shield, but emphasis thus far has been largely on heating.)

What Silver Shield requires is results—in terms of comfort. The objectives include such vital factors as good air distribution and minimum temperature differences between floor and ceiling, between rooms, etc.

Some Members Question Some Requirements

Some contractors, even members of local Indoor Comfort Bureaus, have expressed skepticism of certain Silver Shield requirements, particularly those pertaining to perimeter systems. They claim "just as good systems" can be installed with high side wall registers, for example.

Officials at NWAHACA headquarters, however, merely say, "prove it," pointing out that their requirements are based on extensive research resulting in facts and figures developed from reproducible experiments in "research residences."

It is also noteworthy, however, that NWAHACA officials are becoming increasingly aware of the fact that installation standards they have promulgated are not necessarily applicable, or even possible, in all parts of the continental U. S.

An outstanding example has developed in New Orleans. Extremely high water tables in this city simply rule out in-slab ducts for a perimeter system. Overhead air distribution is the rule. This works well enough for summer cooling, but it does not meet the requirements of floor-to-ceiling temperature gradients for heating.

To solve this problem NWAHACA conducted special field studies in several New Orleans homes with the assistance of local engineers. Writing of standards applicable in New Orleans took considerable time, but this has been accomplished.

MISS SILVER SHIELD, Linda Gay, riding a white horse called "Silver" dramatized the launching of the Ark-Tex (Shreveport) Indoor Comfort Bureau. Miss Silver Shield rode the horse throughout the city to focus attention on the campaign. In other communities public officials have issued proclamations establishing Silver Shield weeks.

The New Orleans experience could indicate that Silver Shield standards may not be possible everywhere.

Does this mean that Silver Shield is doomed to failure?

Hardly.

Success of the Silver Shield program is not dependent on the establishment of a local Indoor Comfort Bureau in every community, or every dealer's being in a local bureau.

Communications are such these days that knowledge of what a few dealers are doing, or what a few towns are doing, rapidly gets around. It seems reasonable to suppose that prospects for heating or year-round air conditioning in *East* Podunk will expect the same quality installations that their relatives and friends are getting from members of the *West* Podunk Indoor Comfort Bureau.

Silver Shield Is 'Grass Roots' Operation

Another extremely important point to remember about Silver Shield is that it's primarily a "grass roots" type of operation.

True, people at NWAHACA headquarters originally gave form and substance to a nebulous idea that had occurred to a number of people, but the inspiration and 99% of the work involved in a local Indoor Comfort Bureau comes from local contractors.

Representatives of the national association do guide and license the local bureaus. But none of these overworked "staffers" has any time these days to go into a town cold and "stir up" demands for Silver Shield.

Furthermore, it must be honestly pointed out, locally generated enthusiasm is sometimes short-lived. Some bureaus have been announced with such fanfare, only to fade away quietly.

Not a Get-Rich-Quick Promotion Scheme

Why does this happen?

Opinion will vary on this, but it probably boils down to the fact that Silver Shield is not, repeat not, a get-rich-quick promotion scheme. Dealers who may have hoped it was are quickly disillusioned.

There's too much work—actual study, committee assignments, etc. Also, local bureau members are obliged to cough up money for local advertising and promotion. There's no national "slush fund" to draw upon. There's no promise of sure-fire success; no promise of trips to the moon for "winners."

These facts apparently come as a rude shock to some dealers.

But there can be results.

Referring once again to the pioneering Kalamazoo bureau, when it was first established, it set up three categories of dealers who contributed a monthly sum for the advertising and promotion "kitty" pro-rated on their annual sales.

Now there is no dealer in the lowest category!

No, the rules haven't been changed. Silver Shield has simply upgraded the sales of these dealers.

How Many Silver Shield Systems to Date?

How many Silver Shield systems have been installed in the country to date?

Well, a Kalamazoo builder, David R. Satin, is putting up 600 homes in a new development. All will have Silver Shield systems, he has announced.

Generally, though, there has been no tremendous boom in Silver Shield systems. But none was expected this soon because this is a long-range program. It seems altogether possible that Silver Shield could achieve widespread success with few Silver Shield systems actually being installed.

If the program succeeds in raising the sights and abilities of dealers, if consumers learn that better heating systems than they've usually "enjoyed" can be had at relatively little increase in cost, and demand them, if manufacturers find an increasing market for their better models, then Silver Shield would have to be considered successful regardless of how many or how few systems qualify in every detail for a Silver Shield.

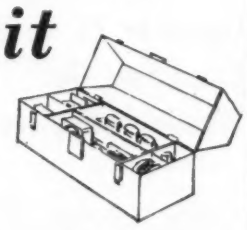
Indications are that the trend is in that direction.

Ready-Power Distributor

LOS ANGELES—Air Conditioning Supply Co. has been named southern California distributor for Ready-Power gas air conditioning systems, it was announced recently.

Now available in capacities of from 20 to 150 tons, the Ready-Power system uses a gas-engine-driven compressor principle to effect operating efficiencies, it was noted.

MASTER *of the service kit*



The Always Dependable Serviceman Thermometer

Also available in Standard Model with single scale.

Field comments confirm our feeling that anything and everything worth having in a refrigeration thermometer has been designed into the Marsh "Serviceman"—truly master of all it surveys.

Users appreciate such royal Marsh features as the easy reeling five foot tubing with conveniently positioned bulb clip; spiral spring to guard against tube crimp; permanently leak tight bourdon tube; easily accessible "Recalibrator" screw; and the Marsh heritage for accuracy and durability.

And the Serviceman thermometer has looks, too! The easy-to-read precision dial also indicates Refrigerant-12 and -22 pressures on contrasting color scales and is regally set-off by a bright chrome bezel on an iridescent gun metal case—fully protected by a scratch-proof, forever clear Lucite crystal.

Available in two ranges: —10 to 100° F. and —40 to 65° F. The De Luxe Serviceman thermometer is the *surest* way to test thermostats, brine tanks and refrigerators. Put one in *your* service kit today!

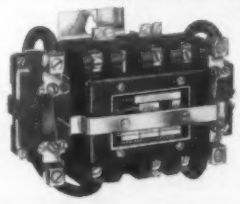
See Your Jobber!

MARSH INSTRUMENT COMPANY, Dept. D, Skokie, Ill. *Division of Colorado Oil and Gas Corporation* • Marsh Instrument & Valve Co. (Canada) Ltd., 8407 103 St., Edmonton, Alberta • Houston Branch Plant, 1121 Rothwell St., Sect. 15, Houston, Texas • Eastern Seaboard Warehouse: Marsh Instrument Co., 1209 Anderson Ave., Fort Lee, N.J.

MARSH Refrigeration Instruments

Gauges • Thermometers • Valves

NOW Ambient Compensated Overload Relays for 30, 40, 50 and 60 Ampere Definite Purpose Starters



Reliable and Accurate Protection Regardless of Heat or Cold

Here, for the first time, is a compact overload relay that compensates for both heat and cold, operating on the same time curve at all temperatures from —20°F to 165°F. Compensation is automatic. No field adjustment is needed. Operating mechanism is simple, rugged and dependable.

0 —20°F

These starters, made specifically for Commercial Air Conditioning and Refrigeration Applications, feature: small size, straight-thru wiring, slotted mounting holes, extra heavy contacts and additional terminals.

0 +165°F

Write for folder (Form No. A-262) to The Arrow-Hart and Hegeman Electric Co., 103 Hawthorn St., Hartford 6, Conn.

ARROW AH HART

Quality since 1890

MOTOR CONTROLS • WIRING DEVICES • ENCLOSED SWITCHES • APPLIANCE SWITCHES

Carrier Spurs Early Orders with Free Trips, Selling Aids, Business Equipment

RYE, N. Y.—Carrier Air Conditioning Co. has announced a new incentive program to stimulate early orders for room air conditioners by rewarding dealers with a choice of European or U. S. vacations, business equipment or promotional aids.

According to Joseph S. Dougherty, product manager for room air conditioners, the program is designed to satisfy dealers who can afford to take time off for vacations as well as others who prefer short trips or tangible help for their businesses.

Called "In The Chips With Carrier," the program gave each dealer a chance to win up to 10 chips for every Carrier "Room Weathermaker" ordered from a distributor during the initial period ended Oct. 31.

By purchasing as few as 35 room units, it is possible to earn one week's vacation in Rome and Madrid; seven room air conditioners can earn a dealer and his wife an expense-paid weekend at one of 28 resorts in the United States.

Bonus chips are given for early orders, requests for early delivery, and early payments. Two chips are awarded for each unit ordered during September and October; one chip for each unit ordered in November through January.

Four bonus chips are given for deliveries requested during the first period, three during the second, two for deliveries requested for February through April, and one for deliveries in May and June. The same bonus system is used for payments made during the four periods.

Dealers also can "buy now and pay later," using the Carrier financing plan which permits purchases with no money down and no interest. Under this plan, dealers pay for units as they are sold and must pay for unsold units by Sept. 1, 1962.

ROME-MADRID TRIP TOPS PRIZES

Topping the list of rewards is a seven-day jet trip with four days in Rome and three days in Madrid. Other travel choices are four-day visits to Las Vegas for Midwest and Western dealers, and San Juan, Puerto Rico, for Eastern dealers.

Another option is a weekend at any of 28 U. S. vacation resorts, with hotel, meal, and incidental expenses covered for the dealer and his family.

The retailer can also redeem his chips for new office equipment such as desks, typewriters, and adding machines, or he can use them to obtain gifts which he can offer to consumers as an inducement to buy room units during the off-season.

IN-USE CHECKUP of apartment air conditioner — As part of The Lefrak Organization's continuing program of product testing and statistical evaluation, technician shown here makes in-use check of air conditioner, noting condition of cooling fins and examining for excess dust, soot, corrosion, etc. Data is correlated with master files, regularly evaluated as a guide to purchasing future appliances and materials. Lefrak Organization is "one of the largest private builders of multiple dwellings in the nation.

Amana Announces Slight Price Rise In '62 Room Air Conditioners

CEDAR RAPIDS, Iowa — Amana Refrigeration, Inc. announced recently that it will raise prices slightly on its room air conditioners for 1962.

The increase was reportedly in the neighborhood of 3 to 5%.

George Foerstner, executive vice president, stated that cost savings effected in engineering and tooling will enable Amana to maintain its current pricing schedule on freezers and refrigerators.

He also announced that, in expectation of greatly increased demand for room air conditioners early in 1962, Amana has already begun production of 1962 models. Normally the company begins air conditioning production in January.

Foerstner told distributors that 1961 sales on the whole exceeded 1960. Except for the first quarter, every month was greater than last year at both the factory and distributor levels.

He added that Amana's export sales have grown to where Amana products are now selling in some 90 foreign countries "in quantity."

"Our foreign business is an important aid to business here at home," he said. Foreign markets can absorb the carryover from distributors through re-channeling overseas, he indicated.

"In addition, the more we produce, the better we can tool, the lower unit costs become," Foerstner explained.

He said that during 1962, sales programs will be custom tailored to fit each distributor's business, rather than being the same for all.

Mrs. Potter Cools All Pottstown Hospital Rooms

POTTSTOWN, Pa. — Every room in the Pottstown hospital will be air conditioned, thanks to Mrs. Carson Potter.

While recuperating in the hospital from a fall, Mrs. Potter became impressed with the air conditioning in her room. Upon discharge she remarked that "It's a shame that everyone can't enjoy it. It's really wonderful."

Mrs. Potter apparently reflected on this in succeeding days and decided that indeed it was a shame. Recently, she presented the hospital with a check to cover the cost of air conditioning every room.

Hotpoint Offers 90-Day Replacement Guarantee

CHICAGO — A new written "Guarantee of Satisfaction" policy on Hotpoint appliances, including air conditioners, assuring the customer of replacement within 90 days after purchase if the customer is not satisfied with the purchased appliance, was announced by the Hotpoint division of General Electric Co.

"If the customer is not satisfied with her Hotpoint appliance, and notifies the dealer within 90 days after purchase, we will replace it at no cost to the customer," said Joseph E. Horak, general manager, sales and distribution department.

Horak said that Hotpoint product quality is established at the point where such a guarantee can be passed on to the consumer.

Operator 25 To Help Customers Get Westinghouse Service

COLUMBUS, Ohio—The nationwide network of Western Union's "Operator 25" system soon will be used by Westinghouse Electric Corp. to supply for its customers names of authorized major appliance and television service locations.

Starting Dec. 1, lists of authorized Westinghouse service operations will be available through Western Union in more than 21,000 offices and covering practically every incorporated community in the nation. Between 4,500 and 5,000 Westinghouse authorized distributor, dealer, and independent service concerns will be listed.

When the customer calls Western Union's Operator 25, she will be directed to the source, or sources, nearest her.

"Most buyers of appliances and television receivers read in their instruction books that they should get service only from an 'authorized Westinghouse service location'," said W. B. Creech, manager of product service for Westinghouse. "Then, they don't know how to find out which service source is 'authorized'. Now it will be simple."

DESIGNERS!
ENGINEERS!
MANUFACTURERS!

Cut installation time with

MINERALLAC®

Gang Strap and Beam Clamp Tubing Supports for the Air Conditioning and Refrigeration Industry

MINERALLAC GANG STRAPS
Strap will support six ¼" O.D. tubes, or used in multiple for more than six ¼" tubes. Can also be used in combination with No. 115 Minerallac Jiffy Clip for supporting five ¼" O.D. tubes and one ⅜" O.D. tube. Made of 22 Gauge U.S.S. cold rolled steel, one-half hard, zinc plated. Available in 6" and 30" lengths.

MINERALLAC NO. 1005 BEAM CLAMPS
Clamp will support three ⅛" O.D. tubes or two ¼" O.D. and one ⅜" O.D. tubes, in various positions on beams. Can also be used in combination with Minerallac No. 505 Gang Strap. Made of 15 Gauge U.S.S. cold rolled steel, one-half hard, zinc plated. Comes complete with set screw.

MINERALLAC GANG IRON
Ideal for supporting single or multiple lines of tubing or conduit. Supports any sized tubing or conduit when used with properly-sized Minerallac Jiffy Clips. Made of ⅛" x 1⅛" cold rolled steel, Parkerized for added protection against rust and corrosion. Available in 5 foot and 6 foot lengths.

Order from Your Electrical Wholesaler
LITERATURE OR SAMPLE ON REQUEST

MINERALLAC *Electric* COMPANY
ESTABLISHED 1894
25 N. PEORIA STREET • CHICAGO 7, ILLINOIS

New **ANEMOTHERM AIR METER** *gives you*

Air Velocity
Air Temperature
Static Pressure

with

PUSHBUTTON

ease

The new model 60 Anemotherm Air Meter helps you balance heating, ventilating and air conditioning systems the modern pushbutton way. It puts air velocity, air temperature and static pressure at your fingertips ... pays for itself through time saved on only one major job. • **Write for Bulletin 55 giving all essential data.**

AC 13368

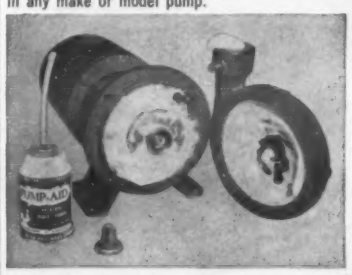
ANEMOSTAT CORPORATION OF AMERICA
25 WEST 43rd STREET, NEW YORK 36, N. Y.

PREVENT STUCK PUMPS!

GET USE PROVEN
PUMP AID
with New, Improved Features.

1. A new RUST INHIBITOR . . . which VAPORIZES and reaches into the smallest crevices.
2. CONTROLLED FOAM ACTION . . . provides full seasonal protection without foam at start up time.

Now is the time to prevent stuck pumps . . . eliminate consuming repairs next spring. After draining pump, simply inject PUMP AID into pump housing through drain hole. Aerosol packaged PUMP AID E-X-P-A-N-D-S to cover all interior surfaces. At start-up time — just throw the switch and your pump is running. PUMP AID is water soluble and washes away. May be used in any make or model pump.



PUMP AID... PREVENTS CORROSION • PRESERVES SEALS • WILL NOT FREEZE • WILL NOT EVAPORATE • IS WATER SOLUBLE • IS NOT TOXIC • IS EASY TO USE • IS REASONABLY PRICED

Order by the case of twelve cans today from your dealer and be prepared when shut-down time comes.

Or write . . .

THE GARMAN CO.
1253 GROVER RD.
ST. LOUIS 25, MO.

NWAHACA--

(Continued from Page 1, Col. 4)

NWAHACA has scheduled a press conference following the session during which officers will describe what took place at the meeting.

An annual "National Silver Shield Dealer's Meeting" is set for Wednesday evening in conjunction with the convention. Indoor Comfort Bureau officers and members will compare and discuss with one another the operation of their local Silver Shield programs and will participate in the election of National Silver Shield officers.

On Thursday, Nov. 9, there will be two concurrent sessions. One is a technical and application engineering session for dealer-contractors, wholesalers, manufacturers, and utilities interested in research and application engineering information.

The other is a marketing conference for manufacturer, wholesaler, and utility representatives who are primarily interested in sales, sales promotion, advertising, and other marketing activities.

At a luncheon session on Thursday, Neal J. Hardy, commissioner of the Federal Housing Administration, will be the guest speaker. A social hour is planned for Thursday evening.

A Region 3 dealer conference will be held Friday, Nov. 10. This is primarily for dealer-contractor members of NWAHACA from Illinois, Indiana, Michigan, Ohio, and Wisconsin. Dealer-contractors from other states also are invited. Manufacturer, wholesaler, and utility representatives may attend as observers.

Election and installation of Region 3 dealer council members are scheduled for this conference. This will be the first of 11 regional dealer councils to be established in the U. S.

Convention program follows:

WEDNESDAY, NOV. 8

1:30 p.m.—Association affairs and management session (for manufacturer members).

Presiding—H. C. Gurney, Janitrol Heating & Air Conditioning; president NWAHACA.

"What We Have Done . . . In '61"—H. P. Mueller, Jr., Mueller Climatrol; second vice president, NWAHACA.

"What We Can Do . . . In '62"—Don Winegardner, Heating Div., The Majestic Co., Inc.; first vice president, NWAHACA.

"Where We Stand . . . Financially"—J. M. Martin, secretary-treasurer, NWAHACA.

"Are We Taking The Right Road?"—H. C. Gurney.

"Who Will Lead Us . . . It's Up To You"—Tom Byrd, The Lau Blower Co.; chairman of Nominating Committee.

Election of officers and trustees.

THURSDAY, NOV. 9

Technical and application engineering Session

9:30 a.m.—Morning Session.

Presiding—Otto J. Ress, Mueller Climatrol; chairman, Research Advisory Council, NWAHACA.

"Does Modulation Improve Comfort Performance"—Murray Patterson, Mechanical Engineering Dept., University of Illinois. Review of the 1960-61 heating season studies using four different types of heating units in Research Residence No. 4.

"Vents . . . Their Selection and Design"—Kendall H. Flint, director of technical service, Gas Vent Institute. How to design vents for use with more than one furnace in multi-story structures. Application of factory built chimneys and vents for all types of housing units including individual tenant operated systems in apartments.

"When Winter Winds Blow"—James H. Healy, research associate in mechanical engineering, University of Illinois. Studies to find how and why infiltration occurs have been conducted in several of the research residences at the university. How outdoor temperature and wind velocity and direction affect air leakage will be discussed, and calculation methods will be evaluated.

"Development of New Military Housing Specifications"—T. R. Casberg, staff specialist for mechanical equipment and systems, Dept. of Defense.

12:15 p.m.—Luncheon session. Guest speaker—Neal J. Hardy, commissioner, Federal Housing Administration.

2:30 p.m.—Afternoon Session.

Presiding—Lorin G. Miller, consultant; chairman Application Engineering Council, NWAHACA.

"Air Processing In Respiratory Allergies"—Jay Spiegleman M.D., Albert Einstein Medical Center, Philadelphia. An explanation of what allergies are, the causative agents, methods of distribution of these agents, and the relationship of air conditioning to the removal of these agents from the air in a structure.

"How Accurate Are Our Heat Loss Calculation?"—Boris Hryekewicz, Mechanical Engineering Dept., University of Illinois. Measured energy consumption has been compared with the calculated heat losses of Research Residence No. 4. These comparison were made using the actual outside conditions as the basis for the calculated heat losses. Findings of this study will be presented.

"Is A Guess Good Enough"—Lorin G. Miller. Results and problems encountered with improperly sized equipment will be reviewed.

"Introducing the New Manual J"—Herbert T. Gilkey, director of technical services, NWAHACA. A comprehensive review of the new method of calculating heat losses and the all-industry accepted procedure in calculating heat gains.

Marketing Conference

9:30 a.m.—Morning session.

Presiding—Don Winegardner.

REFLECTION

"As The **Real** Buyer Sees Us Now"—Introduced by: Kent L. Wilson, Minneapolis-Honeywell Regulator Co. A filmed report of a seven-city survey of "man and woman on the street" attitudes toward the subject of heating and air conditioning and the heating and air conditioning industry.

PROJECTION

"Your Industry's Tomorrow with the **Real** Buyer"—Richard N. Jones, **Life** magazine. A presentation of the industry's marketing potentials and problems during the coming five to eight years as measured by evaluating the industry's marketing experience of the past 10 years against the American economic growth forecasts for the remaining '60's.

12:15 p.m.—Luncheon session.

2:30 p.m.—Afternoon session.

Presiding—H. P. Mueller, Jr.

INTROSPECTION

"The Manufacturer's Relationship To The Real Buyer"—A. W. Beck, Robertshaw-Fulton Controls Co.

"The Wholesaler's Relationship To The Real Buyer"—J. Orville Garrett, Loman-Garrett Supply Co., Greensboro, N. C.; president, Northamerican Heating & Airconditioning Wholesalers association.

"The Utility's Relationship To The Real Buyer"—Chet S. Stackpole, managing director, American Gas Assn.

"The Dealer's Relationship To The Real Buyer"—R. A. Nelson, director of public relations, NWAHACA.

DIRECTION

"What Needs Doing"—J. P. Field, The Williamson Co.

FRIDAY, NOV. 10

Region 3 Dealer Conference

9 a.m.—Morning session.

Presiding—Carl W. Millsom, Perfection Div., Hupp Corp.; chairman, Trade Relations Committee, NWAHACA.

"Welcome To The First Regional Dealer Conference"—Harry C. Gurney.

"Straight From The Homeowner's Mouth"—Filmed report of seven-city survey.

"Selling Quality Systems As Homeowners Want to Be Sold"—James D. Nolan, assistant director of public relations, NWAHACA.

Election and installation of Region 3 dealer council members.

1:30 p.m.—Afternoon session.

Presiding—J. P. Field, chairman, Dealer Training Committee, NWAHACA.

"The Silver Shield Route to Profitable Sales of Quality Systems"—Glen W. Rynbrand, Glen W. Rynbrand Co., Kalamazoo, Mich.; executive secretary, Kalamazoo Indoor Comfort Bureau, and past president, National Silver Shield Dealers.

"Managing Your Business For Stability and Profit"—Randall A. Nelson, James D. Nolan, and Robert A. LaChance, NWAHACA. An introduction to "Business Management for Dealer-Contractors."

● FULL FLOW

✳ SELF ADJUSTING

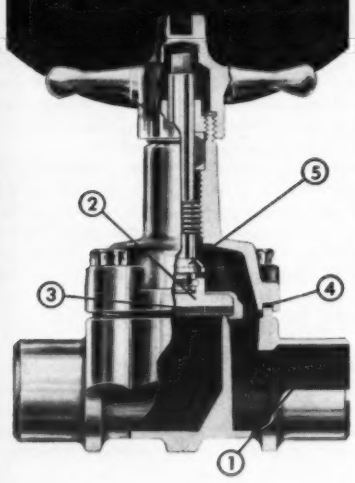
● POSITIVE SHUT-OFF

✳ LEAK-LOK BONNET SEAL

● REPACKS IN USE

✳ TEMPERATURE PROOF

KEROTEST PACKED GLOBE VALVES



"Packed" with quality and of rugged brass construction, these valves are ideal for refrigeration and air conditioning systems, oxygen (degreased), nitrogen, compressed air and liquified petroleum gases. Features: 1. Designed for full flow. 2. Floating disc for self-adjustment. 3. Quick seating disc for ease of operation. 4. Leak-proof with exclusive gasketing. 5. Repacks under pressure with positive back seating. Maximum operating pressure 500 p.s.i.—maximum temperature 200° F. See your Kerotest wholesaler.

R12 Series ⅞"-2⅛" Forged Brass
R10 Series 2⅛"-4⅛" Cast Brass

KEROTEST

KEROTEST MANUFACTURING CO.
2502 Liberty Avenue
Pittsburgh 22, Pa.

Advertisers In This Issue

The following list of advertisers in this issue is published solely as a convenience. While every effort is made to maintain accuracy and completeness, last minute changes may occasionally result in unavoidable omissions or errors.

Air Conditioning, Heating & Refrigeration Industry Exposition	24
Airserco Mfg. Co.	33
The Harry Alter Co., Inc.	28
Alco Valve Co.	4
Allen-Bradley Co.	15
Anaconda Aluminum Co.	21
Anaconda American Brass Co.	7
Anemostat Corp. of America	32
The Arrow-Hart and Hegeman Electric Co.	31
Barnebey Cheney	28
Bell & Gossett Co.	8
Chevrolet Div. of General Motors	22-23
The Garman Co.	32
Gustin-Bacon Mfg. Co.	5
Halstead & Mitchell Co.	24
H & H Tube and Mfg. Co.	30
Holsclaw Bros., Inc.	17
Honeywell	10-11
Kerotest Mfg. Co.	33
Kramer Trenton Co.	2
Larkin Coils Inc.	26
The Leece-Neville Co.	33
Lennox Industries Inc.	25
Marsh Instrument Co.	31
McQuay Inc.	36
Mechanical Industries Prod. Co.	20
Meier Div., The Lau Blower Co.	6
Minerallac Electric Co.	32
Mueller Climatrol Div. of Worthington	12
The C. A. Olsen Mfg. Co.	21
Ranco Inc.	13
Rockwood Pulley Mfg. Co., Inc.	30
Southgate Tool & Die Co.	5
Sporlan Valve Co.	14
Standard Refrigeration Co.	3
Superior Valve & Fittings Co.	17
The Trane Co.	18-19
Union Carbide Chemicals Co. Div. of Carbide Chemicals Corp.	9
Ventco, Inc.	8
Wabash Corp.	30
Walton Laboratories, Inc.	15
Watsco Inc.	20

Air Conditioning & Refrigeration FACTORY PROCESSING EQUIPMENT

• Pressurized Tracer Gas Units • Portable Refrigerant Charging Stations • 5 Unit Rough Vacuum Stations • Precision Laboratory Chargers • Leak and Moisture Indicators • High Vacuum Pumps and Accessories

. . . complete production line facilities engineered to your requirements.

AIRSERCO MFG. COMPANY
3875 Bigelow Blvd. - Pgh 13, Pa.

AC OR DC—FOR EFFICIENT, RELIABLE, LOW-COST POWER, SPECIFY LEECE-NEVILLE MOTORS

The world's largest independent supplier of fractional horsepower D.C. motors for automotive use also offers you a complete line of quality A.C. motors capable of meeting U.L. and C.S.A. application tests. Advanced design and modern manufacturing facilities assure peak performance and delivery to your schedules. Select a basic unit, let us help you adapt a basic unit, or we will custom-engineer a special motor to your requirements.

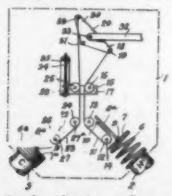
For information on A.C. motors, write The Leece-Neville Company, Dept. AC-11. Georgia Division, Athens Highway, Gainesville, Georgia. For D.C. motor data, write D.C. Motor Div., Cleveland 3, Ohio.

A.C. Shaded Pole Motors — 2, 4 and 6-pole models with power range from 1/150 to 1/4 hp for use in blowers, fans, pumps, air conditioners, ventilators, etc.
A.C. Permanent Split Capacitor Motors — 4 and 6-pole models from 1/15 to 1/3 hp for use in blowers, room air conditioners, heating units, condenser fans, etc.
D.C. Motors — Complete line of 6, 12, 24, 32 and 110 volt motors with single or 2-speed and reversible options. Leece-Neville custom-engineers more than 300 special D.C. motors every year.
QUALITY ELECTRICAL EQUIPMENT
Leece-Neville
SINCE 1909

PATENTS

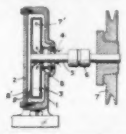
Week of June 27 (continued)

2,989,964. DUAL DUCT ATTENUATORS FOR AIR CONDITIONING SYSTEMS AND THE LIKE. Peter A. Argentieri, Danbury, and Thomas L. Day, Bethel, Conn., assignors to Connor Engineering Corp., Danbury, Conn., a corporation of New York.



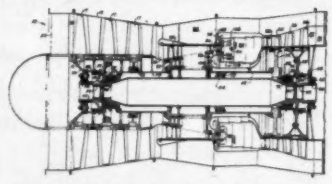
1. A dual duct valve attenuator comprising, a housing at which a pair of air ducts is terminated, each duct termination including a spring-urged damper located within the housing and adjusted by varying the open area between it and its duct, flexible cables attached to said dampers, an adjustable linkage operative to move the cables in an opposed manner to cause opening of one damper and closing movement of the other, said adjusting linkage including a pivoted T-element, the cables being attached to the arms of the T-element so that oscillation of the T-element pulls one cable for a predetermined distance while permitting the other cable to be simultaneously pulled in the opposite direction for the same distance, and means for moving the cables in a direction toward the center of oscillation of the T-member so that the cables simultaneously reduce the maximum amount of opening of the dampers and the amount of travel of the dampers relative to the movement of the T-element.

2,990,107. COMPRESSOR. Ray C. Edwards, Pompton Plains, N. J. (Ski Trail, Smoke Rise, N. J.)



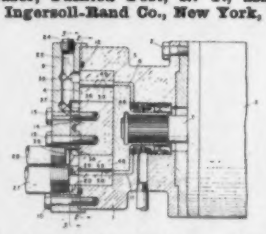
1. A centrifugal compressor including a closed cylinder having flat ends and means for rotating said cylinder wherein a compressible gas within the cylinder will assume the rotative velocity of the cylinder and will be compressed by centrifugal force from the rotative center of the cylinder outwardly, the inner surface of the perimeter of said cylinder being in the form of a continuous circle and free from irregular surface areas, at least one vane within said cylinder and rotatable with the cylinder, said vane spaced with relation to the inner surface of the perimeter of said cylinder as to permit unimpeded rotary movement of the compressed gas along the inner surface of the perimeter of the cylinder. . . .

2,990,108. COMPRESSOR WITH ANNULAR DISCHARGE DIFFUSER. Wilton G. Lundquist, Ho-Ho-Kus, N. J., assignor to Curtis-Wright Corp.



1. A compressor structure comprising a compressor rotor; a stator having an annular axially-directed outlet opening to which said rotor is arranged to supply compressed fluid; and a substantially-flat stationary annular member co-axially disposed across and axially spaced downstream from said compressor annular outlet and extending a substantial distance both radially outwardly and radially inwardly of said outlet, said stator having a first annular wall portion extending radially outwardly from the outer wall of said annular outlet and axially spaced from the adjacent portion of said annular member so as to define therebetween a first annular flow path turning radially outwardly substantially 90° from said outlet opening. . . .

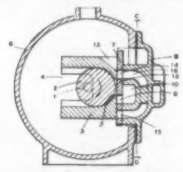
2,990,109. DOUBLE ACTING ROTARY COMPRESSOR. Grover D. Fraser, Painted Post, N. Y., assignor to Ingersoll-Rand Co., New York, N. Y.



1. A two-stage rotary compressor comprising a casing, a generally elliptically-walled chamber in said casing, a tubular rotor operatively mounted in said chamber to form therewith a pair of diametrically opposed compression chambers, intake ports communicating with said compression chambers, a generally elliptical stator in said casing positioned within said tubular rotor coaxially with said rotor and casing and forming therewith a second pair of diametrically opposed compression chambers, passageway means for connecting said two pairs of compression chambers, discharge ports leading from said second pair of compression chambers, a plurality of equally spaced slots extending radially through said tubular rotor, and vanes slidably mounted in each of said slots, each of said vanes being composed of two flat-faced laminations. . . .

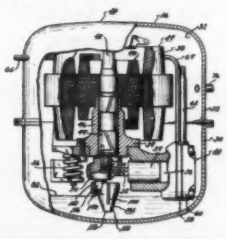
2,990,110. FLUID COMPRESSORS. Frederick Walter McCombie, London, England, assignor to Megator Pumps and Compressors Ltd., London, England.

1. A compressor comprising a casing for receiving a compressible fluid and having a discharge opening, port plate means in said casing and having a plurality of sets of inlet, delivery and outlet ports with said outlet port in communication with said casing, a plurality of hollow shoes each defining an expansion chamber and mounted for sliding movement against said port plate means with an aperture formed through the wall thereof facing said plate means, said shoes being respectively cooperative with one set



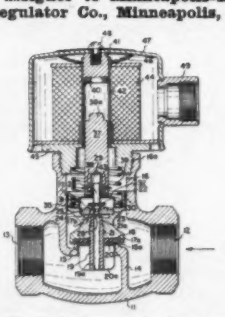
of ports and movable for alternate communication between the chamber of each shoe through its aperture with the inlet and delivery ports of its set and alternate closure of the outlet port of said set. . . .

2,990,111. REFRIGERATING APPARATUS. Nicholas J. Bohn, Dearborn, Mich., assignor to American Motors Corp., Detroit, Mich.



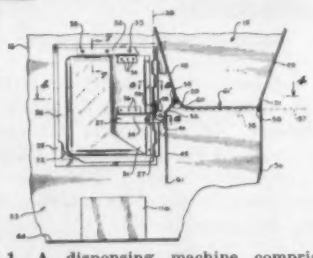
1. Refrigerating apparatus comprising a casing, a sealed chamber formed by said casing and adapted to receive and to conduct refrigerant vapors therethrough, a body of liquid lubricant stored in said chamber, a compressor including a crankshaft mounted within said chamber, a motor within said chamber operatively connected to drive said crankshaft for operation of said compressor, paddle means extending vertically from above said body of liquid lubricant downwardly into said body of liquid lubricant, and means for operatively connecting said paddle means externally to said crankshaft whereby the operation of said crankshaft will rotate said paddle means to agitate the vaporous refrigerant contained lubricant and to mix therewith refrigerant vapors from said chamber and which vapors will be dispersed throughout the body of liquid lubricant as bubbles.

2,990,155. PRESSURE OPERATED VALVE. Eric P. Selinder, Minneapolis, Minn., assignor to Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.



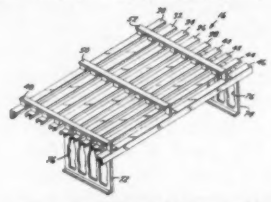
1. A liquid flow control valve comprising a valve body having an inlet and an outlet with a valve seat therebetween and an opening in a side of said body on the inlet side of said valve seat, a movable wall in said opening, a first valve cooperable with said seat and operably connected to said movable wall, means closing said opening and forming with said movable wall a pressure chamber therebetween, a first bleed passage between said inlet and said pressure chamber, a second bleed passage between said pressure chamber and said outlet, a separate inverted cup-shaped member of relatively thin metal disposed on said movable wall, means for securing said cup-shaped member in engagement with said movable wall. . . .

2,990,227. DISPENSING MACHINE HAVING REACH-IN DOOR. Eugene P. McCaleb, Norwalk, Calif., assignor to Dariomatic, Inc., Manhattan Beach, Calif.



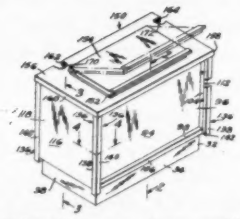
1. A dispensing machine comprising a housing forming a storage chamber adapted to contain a supply of packaged items to be dispensed, said housing having a wall containing an access opening, means forming in the housing behind said access opening a delivery compartment essentially isolated from said storage chamber, there being a second opening in the top of said delivery compartment and offset to a side of said first opening, dispensing mechanism operable to successively dispense said packaged items downwardly through said second opening and into said compartment at a side of said first opening. . . .

2,990,228. VENDING RACK ASSEMBLY. Frederic A. Celler, Homer, N. Y., assignor, by mesne assignments, to The Seeburg Corp., Chicago, Ill.



1. In a horizontal-type vendor for refrigerated bottles having a cabinet providing walls defining a compartment: rack means in said compartment for permitting the loading of certain sectors of said vendor and the discharge therefrom of bottles having predetermined dimensions and contoured surface characteristics including reduced neck portions and nipped-in waist portions and discriminating against other bottles possessing other than said characteristics while permitting said other bottles to be loaded in and discharge from other sectors of said vendor; said rack means including a first plurality of spaced and parallel bottle neck retaining racks each of which is disposed in substantially the same plane and cooperable to engage the neck of said other bottles. . . .

2,990,229. REVERSIBLE RECESSED PANEL-TYPE VENDOR STRUCTURE. Robert M. Engelbrecht, Rocky Hill, N. J., assignor, by mesne assignments, to The Seeburg Corp., Chicago, Ill.



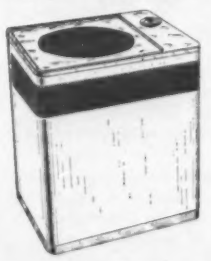
1. Cabinet means for providing a reversible panelized system to produce multiple outward visual effects and appearances for refrigeration type units, said cabinet means including a supporting member, at least one panel having an attached flanged sector disposed in a plane other than that of other sectors of said panel, with the plane of one of the aforementioned sectors being outwardly more removed than the other and further with said flanged sector being mounted by said supporting member, a guide connected to said supporting member and surrounding zones of said flanged sector, said guide including a flanged guideway, a corner trim having a flange and sectors thereof being disposed in a plane substantially parallel to the plane of said flanged sector, and said flange being disposed adjacent said flanged sector and being embraced by said flanged guideway.

2,990,303. CONDITIONING TREATMENT FOR COOLING SYSTEMS AFTER ACID CLEANING. Charles F. Pickett, Bel Air, and Myer Rosenfeld, Baltimore, Md., assignors to the United States of America as represented by Secretary of the Army. No Drawing.

1. A process of conditioning a cooling system after acid cleaning comprising the steps of circulating through the system an alkali metal silicate solution, draining said solution and rinsing said system with an alkaline solution containing an alkali metal phosphate and an alkali metal tetraborate.

DESIGN

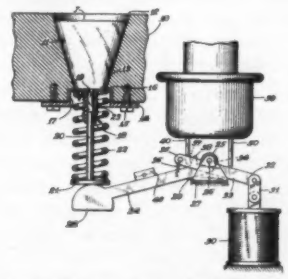
190,775. HUMIDIFIER. Clifford W. Nesbitt, deceased, late of Albion, Mich., by Lena L. M. Nesbitt, administratrix, Albion, Mich., assignor to McGraw-Edison Co., Milwaukee, Wis.



NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

Week of July 4

2,990,692. HOME APPLIANCE ICE MAKER. Earl P. Hubacker and Roger M. Lockwood, Evansville, Ind., assignors to Whirlpool Corp., a corporation of Delaware.



1. Apparatus for ejecting an ice body from a mold cavity tapering from a large end to a smaller end, comprising: means defining a chamber communicating with the smaller end of the cavity; means for providing a fluid in the chamber and confronting the ice body at the small end of the cavity to have at least a portion of the fluid frozen in the chamber; means for converting the frozen fluid to liquid fluid; and means developing, when desired, a pressure in the converted liquid fluid sufficient to break the ice body free of the wall of the cavity and urge the

NEWS LIBRARY OF PROFITS

Advances In Cryogenic Engineering. Vols. 1 ☐, 2 ☐, 3 ☐, 4 ☐, 5 ☐. $13.50 ea. Vol. 6 ☐. $15

☐ A.G.A. Gas Heating Controls Service Manual—$9

☐ Air Conditioning the Home—$3

☐ Boilers: Types, Characteristics, and Functions—$15

Commercial Refrigeration—$1.50 each. ☐ C-1 ☐ C-2 ☐ C-3

☐ Design of Air Conditioning Systems $8

☐ Design of Heating & Ventilating Systems $8 (Combination price of above two—$14)

☐ Design of Industrial Exhaust Systems—$6

☐ Handbook of Air Conditioning, Heating & Ventilating—$15

☐ Machinery's Handbook—$13

☐ Handbook of Instrumentation and Controls—$15

Key to Air Conditioning—$2 each. ☐ K-1 ☐ K-2 ☐ K-3

☐ Ideas, Inventions, and Patents—How to Develop and Protect Them—$5.95

☐ Legal Problems In Engineering—$7.50

☐ Management Guide for Dealer-Contractors—$18

☐ National Warm Air Heating & Air Conditioning Library (complete)—$20

☐ New Master Service Manual—$1.50

☐ 1961 ASHRAE Guide and Data Book—$12.50

☐ Plant & Process Ventilation—$9

☐ Principles of Refrigeration—$11.50

☐ Refrigeration and Air Conditioning—$8.75

☐ Refrigeration Engineer's Manual—$3

Refrigeration Problems and Their Solution—$1.50 each ☐ J-1 ☐ J-2 ☐ J-3 ☐ J-4 ☐ J-5

☐ Residential and Commercial Air Conditioning—$9

☐ Standard Refn. and Air Cond. Questions and Answers—$6.95

Servicing Automobile Air Conditioners. ☐ Vol. 3 $1 Vols. 1 ☐, 2 ☐, 4 ☐, $2 ea.

☐ Parts and Labor Rates for Auto Air Conditioning—$30

☐ Summer Air Conditioning—$8

☐ Winter Air Conditioning—$8 (Combination price of above two—$15)

Temperature Measurement In Engineering. ☐ Vol. 1, $4.95. ☐ 2, $13

☐ One Foot In the Door (the specialty salesman)—$3

☐ Both Feet on the Ground (the specialty dealer)—$5.95 (Combination price of above two—$7.50)

11-6-61

Business News Publishing Co.
400 W. Fort St., Detroit 26, Mich.

Please rush me books checked above.

Name .....

Company .....

Street .....

City..... Zone... State.....

☐ Send COD ☐ Payment enclosed

AIR ENGINEERING

The One Publication Edited Exclusively for the Industrial & Commercial User

- Air Moving & Ventilating
- Air Cleaning
- Air Conditioning, Heating

AIR ENGINEERING serves a growing group of specialists, who are primarily responsible for the engineering, installation and supervision of air systems. These key staff men are air engineers with large corporations, mechanical contractors, consulting engineers, code and enforcement agencies.

AIR ENGINEERING is devoted exclusively to the interests of this giant market. Editorially it provides practical problem solution articles on air systems—nothing else. This editorial climate attracts the air engineer seeking not only ideas but air moving, heating cooling, cleaning & control equipment which can solve his problems.

• • •

Surveys of AIR ENGINEERING readers show that 60.9% of staff engineers, 87.9% of the consultants and 49.2% of the mechanical contractors specify or buy air moving equipment. And, that all are responsible, directly or indirectly, for most of the following.

Air Conditioning Systems and Components
Air Moving Equipment
Unit, Duct or Make-up Air Heaters
Odor Control Equipment
Ventilators, Gravity or Powered
Air Filters
Electrostatic Precipitators
Dust Collectors, Dust Collecting Systems
Humidity Control Equipment
Noise Control Equipment
Air Grilles, Registers, Diffusers, Ductwork
Instruments, Air Analysis & Monitoring
Pumps

• • •

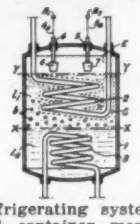
If you are selling products in any of these basic classifications, or any related products, advertise these products in AIR ENGINEERING. It is the only publication primarily serving this field.

AIR ENGINEERING

450 W. Fort St. • Detroit 26, Mich.

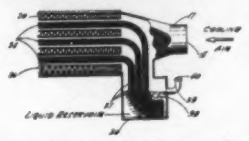
ice body outwardly through the large end of the cavity.

2,990,693. REFRIGERATOR SYSTEM. Marcel E. Houplain, Paris, France, assignor of one-half to Compagnie Industrielle des Procedes Raoul Pictet, Paris, France, a company of France.



1. A refrigerating system comprising sealed container means; a first body of a relatively heavy volatile liquid filling the power part of said container means; a second body of freezable, lighter liquid overlying said first body in said container means, a substantial liquid-free space remaining in said container means above the liquid level of said second body; cooling means immersed in said second body and capable of freezing the liquid of said second body; heat exchange means associated with a medium to be cooled and in heat exchange relation to said first body. . . .

2,990,696. EVAPORATIVE HEAT EXCHANGER. John T. Fisher, Indianapolis, Ind., assignor to Stewart-Warner Corp., Chicago, Ill.



6. In a heat exchanger, a plurality of hollow heat exchange members in parallel positions, a plurality of wicks positioned between and spaced from the heat exchange members, the members and the wicks being so constructed as to define fluid passages therebetween, means supplying a fluid to be cooled to the interiors of the heat exchange members. . . .

(To Be Continued)

BOOKS

AIR CONDITIONING • REFRIGERATION
HEATING • VENTILATING • SERVICING
MANAGEMENT • SALES • ENGINEERING

THE REAL EXPERT has many facts at his fingertips—in his mind and in reference books in his tool kit or beside his desk or drawing board. They make him competent. They make him successful. The true expert buys and digests the latest editions of books—important sources of his "bread and butter." To make it easier for both the experts and the students or younger men on the way up, we will supply you with books of other publishers—at no extra cost—in addition to those of our own imprint. Check the list carefully, then send us your order.

Knowledge Is Power . . .
It Also Spells Profits

Air Conditioning the Home, (5th edition). A comprehensive up-to-date study of the residential air conditioning market. Illus. $3.00

Boilers: Types, Characteristics, and Functions, by Carl D. Shields. Covers residential, commercial, industrial. Illus. $15.00

Commercial Refrigeration, by K. M. Newcum. Theory combined with practical installation and service methods. 3 vols.: C-1, C-2, C-3. Illus. ..... 1.50 ea.

Design of Air Conditioning Systems, by F. W. Hutchinson. 115 working charts help solve design problems directly. Illus. $8.00

Design of Heating and Ventilating Systems, by F. W. Hutchinson. 96 working charts simplify engineering problems. Illus. ..... $8.00 (Both Hutchinson books for $14.00)

Design of Industrial Exhaust Systems (revised), by John L. Alden. Classic text also covers building and buying systems. Illus. $6.00

Handbook of Air Conditioning, Heating, and Ventilating, by Clifford Strock. Comprehensive book of facts, figures, data. Illus. $15.00

Machinery's Handbook. Indispensable reference book for designers and builders of mechanical products. Illus. $13.00

Handbook of Instrumentation and Controls, by Howard P. Kallen. Covers all mechanical services in larger buildings. Illus. $15.00

Key to Air Conditioning, by James J. LaSalvia. Details commercial jobs up to 100 tons for beginner and expert. 3 vols.: K-1, K-2, K-3. Illus. ..... $2.00 ea.

Management Guide for Dealer-Contractors. Practical suggestions prepared by manufacturers, wholesalers, dealers. Illus. $18.00

National Warm Air Heating and Air Conditioning Library (complete). Design and installation guides for residential systems. Illus. $20.00

New Master Service Manual (N-1), by K. M. Newcum. Refrigeration fundamentals and practices for servicemen and installers. Illus. .. $1.50

Plant and Process Ventilation, by W. C. L. Hemeon. Theory and principles show solutions to practical industrial problems. Illus. $9.00

Refrigeration and Air Conditioning, by W. F. Stoecker. Outlines modern theory and practice of design and application. Illus. $8.75

Refrigeration Engineer's Manual, by S. L. Potts. The guide used by many thousand operators and maintainers of industrial systems. Illus. ... $3.00

Refrigeration Problems and Their Solution, by Paul Reed. One of the most popular series of reference manuals ever written. 5 vols.: J-1, J-2, J-3, J-4, J-5. Illus. ... $1.50 ea.

Servicing Automobile Air Conditioners, by C. Dale Mericle. Data on specific makes and models, 1954-59. Illus. 4 vols.: 1, 2, and 4, $2.00 ea.; Vol. 3, $1.00.

Parts and Labor Rates for Auto Air Conditioning, by R. V. Anderson. Lists parts numbers, costs, time allowances for many models 1957-60. Illus. $30.00

Summer Air Conditioning, by Konzo, Carroll, Bareither. Training text and reference book on residential air conditioning. Illus. $8.00

Winter Air Conditioning, by Konzo, Carroll, Bareither. Companion volume discusses heating, humidity problems in homes. Illus. ..... $8.00 (Both above books for $15.00)

Residential and Commercial Air Conditioning, by Charles H. Burkhardt. How to size, install, and service systems. Illus. $9.00

Gas Heating Controls Service Manual, by American Gas Association. Specific instructions on many makes. 3 supplements yearly. Illus. $9.00

Standard Refrigeration and Air Conditioning Questions and Answers, by Elonka and Minich. Operating and licensing data. Illus. $6.95

Principles of Refrigeration, by Roy J. Dossat. Textbook for basic engineering course. Excellent thermodynamic analysis. Illus. $11.50

Temperature Measurement in Engineering, by Baker, Ryder, Baker. For laboratory, shop, field. 2 vols.: Illus. Vol. 1, $4.95; Vol. 2, $13.00

Ideas, Inventions, and Patents—How to Develop and Protect Them, by R. A. Buckles, Jr. A broad coverage of patent law. Illus. $5.95

Legal Problems In Engineering, by Melvin Nord. A guide and reference for all engineers to legal principles. Illus. $7.50

1961 ASHRAE Guide and Data Book. The basic reference work for engineers, architects, contractors, manufacturers, salesmen. Illus. $12.50

Advances In Cryogenic Engineering, edited by K. D. Timmerhaus. Proceedings of six national conferences. 6 vols.: Vols. 1-5, $13.50 ea. Vol. 6 (1960), $15.00

One Foot In the Door, by George F. Taubeneck. Authoritative, humorous guide for the specialty salesman. $3.00

Both Feet On the Ground, by George F. Taubeneck. Good reading and expert advice for the specialty selling dealer. ..... $5.95 (Both Taubeneck books for $7.50)

Mail In Your Order Today

Business News Publishing Co.
450 W. Fort, Detroit 26, Mich.

11-6-61

Please rush me ..... copies of books listed at right.

Name .....

Company .....

Street .....

City .....Zone.....State.....

☐ Payment enclosed (if so we pay postage) ☐ Bill me

CLASSIFIED ADVERTISING

RATES for "Positions Wanted" $7.50 per insertion. Limit 50 words. 15¢ per word over 50.

RATES for all other classifications $10.00 per insertion. Limit 50 words. 20¢ per word over 50.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other address by actual word count. Please send payment with order.

POSITIONS WANTED

AIR CONDITIONING heating and refrigeration mechanic desires relocate family in California. Eleven years' experience on all types equipment. Installation, service, sales. Licensed master mechanic, unlimited, Washington, D.C. area. 36 years old. Training include college, Thermoking factory, Westinghouse factory applied, etc. LESLIE DANKER, 2921 Mosby St., Alexandria, Virginia. KI 8-5065.

DESIRE CHALLENGING position with HVAC and refrigeration consultant, mechanical contractor or manufacturer. Experience consists of two years with leading manufacturer in international sales department. Primary duties were project engineering and sales. Graduate engineer with BSME willing to relocate anywhere in the United States or overseas. Detailed resume will be sent on request. BOX A6911, Air Conditioning, Heating & Refrigeration News.

MR. MANUFACTURER—I need one or two good lines of heating or air conditioning accessories to sell to manufacturers of warm air furnaces and boilers. I am presently covering all states east of Indiana and as far south as Virginia for a manufacturer of residential air conditioning equipment. My calls are confined to over 100 O.E.M. accounts only. I have had 10 years' experience in heating and air conditioning at the wholesale, manufacturing and manufacturers' representative level. I am young (36) energetic and financially able to cover any territory regularly. I maintain a complete office staff and warehouse facilities are readily available. If you have a product for O.E.M. customers in my field please write BOX A6914, Air Conditioning, Heating & Refrigeration News.

25 YEARS' experience sales manager, division sales manager and manufacturers' representative. Will locate in Connecticut or near New York February 1, 1962. Wish agency arrangements or position sales manager or division manager for heating, air conditioning and refrigeration manufacturer commercial, industrial, residential. Experienced in handling manufacturers' representatives, wholesalers, national and industrial accounts. Owned manufacturers agency in New York area and Eastern Seaboard for many years. Reply to: BOX A6915, Air Conditioning, Heating & Refrigeration News.

POSITIONS AVAILABLE

PRODUCT ENGINEERS "A" & "B"—Residential heating and cooling product. American-Standard, Air Conditioning Division, is expanding its development laboratory and desires graduate engineers with two years' experience for junior engineers and six years' experience for senior engineers in either or both types of product. Located in Elyria, Ohio, just 25 miles west of Cleveland. Send complete resume and salary requirements to A. B. Von Dera, Mgr. of Employment, AMERICAN-STANDARD, Air Conditioning Division, Elyria, Ohio.

SERVICE SALES manager. Excellent permanent position available for experienced sales manager with successful background in sales, training and administration. Must have good working knowledge of air conditioning and refrigeration service. Send complete resume and salary requirements. AUTHORIZED SERVICE CORP., 1256 So. Atlantic Blvd., Los Angeles 22, California.

CARRIER DISTRIBUTOR needs man capable of selling self-contained equipment from original contact thru closing, including load calculation, preliminary design, cost estimating. Prefer man with minimum family. Good long range opportunity for qualified person with interest in Hawaiian way of living. Air mail resume to ROBERT MACRAE, P. O. Box 2935, Honolulu, Hawaii.

PRODUCT DEVELOPMENT engineer. Engineer with experience in filtration to develop high efficency filter media and equipment, new types of filters, and new applications for existing products. Market orientation desirable. Salary will be commensurate with background and experience. This position is located in one of the finest family communities in central Ohio. Send your complete resume to: Mr. David A. Greason, OWENS-CORNING FIBERGLAS CORP., Newark, Ohio.

AIR CONDITIONING, heating mechanic, 30-45, experienced. Vacation and insurance benefits. Send photo and resume. T. M. WILLIAMS CO., 979 Volusia Ave., Daytona Beach, Florida.

WANTED — ENGINEER air conditioning design and development — strong in electrical. Write P. O. BOX 35546, Dallas 35, Texas.

ENGINEERING SUPERVISOR. Major New York City producer seeks man with varied and heavy experience in the design, testing, and production of room air conditioners, de-humidifiers, and other refrigerated home appliances. Supervisory experience desirable. Please mail resume, and state salary requirements. (Our employes know of this ad). Write BOX AH 1956, 125 W. 41 Street, N. Y. C.

BIG MONEY opportunity exists for experienced salesmen on packaged and applied equipment lines of old established air conditioning and refrigeration equipment manufacturer. Prime territories available to qualified manufacturers' representatives. For confidential interview arrangements send resume to BOX A6884, Air Conditioning, Heating & Refrigeration News.

LIVE IN Florida — Manufacturer of ventilating fans located in southern Florida needs engineer, age 30 to 40, to help in all phases of company management. Must have experience in design, production, and application of all types of ventilating fans. Opportunity to advance with 25-year-old regional company undergoing rebuilding and expansion to national basis. Salary approximately $10,000 yearly. Please send details of education and experience. All replies confidential. BOX A6902, Air Conditioning, Heating & Refrigeration News.

WANTED TO hire—Engineers M.E. or E.E. degree or equivalent plus 3-5 years' experience in design and development of refrigeration equipment. Midwest location. Excellent opportunity for growth and advancement. Made to order for an alert, ambitious engineer desiring to progress toward engineering management. Send resume including salary requirements. BOX A6906, Air Conditioning, Heating & Refrigeration News.

AN EXPERIENCED, successful sales engineer wanted by an old established York distributor in central Massachusetts. The qualified man will be in charge of this department. This is a permanent position with unlimited possibilities with a wealth of old, satisfied customers to work on. BOX A6907, Air Conditioning, Heating & Refrigeration News.

SERVICE ENGINEER needed in expanding service operation of major air conditioning and refrigeration equipment manufacturer. Job includes handling warranty claims, writing technical service manuals, technical assistance to field offices, occasional troubleshooting trips during cooling season. Sound knowledge of electrical controls and systems required. Salary open. Send resume and salary required to BOX A6910, Air Conditioning, Heating & Refrigeration News.

MANUFACTURER OF air conditioning and refrigeration equipment and components wants representatives in several states east of the Mississippi river. Excellent opportunity with growing company. Address replies to BOX A6912, Air Conditioning, Heating & Refrigeration News.

SALES ENGINEER with application experience in heating and air conditioning, for Midwest location. Send resume of performance to BOX A6913, Air Conditioning, Heating & Refrigeration News.

EQUIPMENT WANTED

USED KINNEY vacuum pump or its equal. Also home and commercial freezers and refrigerators and compressing units and domes not in working condition. KEENER REFRIGERATION, 1712 East Prospect Rd., Ashtabula, Ohio. Phone WY 3-6176.

COMPRESSORS AND parts, new or used and repairable; Brunner, General Electric, Copelametic, Mills, etc. Give full details as to model number, horsepower, quantities, etc. Write UNITED REFRIGERATION CORPORATION, 514, W. 12th St., Los Angeles 15, California.

EQUIPMENT FOR SALE

SEALED UNITS remanufactured equal to new. All makes domestic, commercial and air conditioning. One year guarantee against defective workmanship and material. Off the shelf exchanges. Send for free price list. Jobbers inquiries welcome. Protected territory. BONDED HERMETIC REMANUFACTURING CO., INC., 9833 Ditmas Avenue, Brooklyn 36, N. Y. DI 5-6969.

NEW SURPLUS refrigeration parts, air conditioning parts, manufacturers' overstock and close-out specials. Relays, overloads, capacitors, fittings, valves, cold controls, compressors, etc. Send for free 12 page new fall circular. Every item a bargain. COLDPARTS SUPPLY, INC., 1600 S. Dearborn St., Chicago 16, Illinois. CAlumet 5-7102.

MAKE EXTRA Winter profits: Display and sell a top line of room air conditioner Winter covers. Indoor and outdoor types available for immediate delivery from stock. Send for free alphabetical directory and price sheet. The price is low—the markup high—act now. JIFFY COVERS CORP., 614 Third Avenue, New York 16, New York.

NOTICE: DISTRIBUTORS, dealers, servicemen, users refrigeration equipment—repair parts available all models Baker ammonia and Freon compressors. Also models 6B and F6B ammonia compressors. We are exclusive Baker export sales office. Manufacturers' export agents refrigeration, air conditioning and allied equipment. THE KEISER COMPANY, 1555 W. 79th St., Chicago 20, Illinois.

BRAND NEW icemaker pump motor and impeller repair kits for Scotsman Carrier $18.00 at Kesco wholesalers coast to coast. Bronze replacement icemaker pumps for York Carrier $29.95. Hose connection adaptors for York Carrier $1.00. Complete line condensate pumps from 10' to 50' head, 115-208-230 volts. Catalog. KESCO, Jamaica 13, N. Y.

ATTENTION REFRIGERATION Servicemen. Send for catalog listing values in refrigeration and air conditioning parts, relays, capacitors, compressors. Savings up to 50%. WALTER W. STARR, 2833 Lincoln Ave., Chicago 13, Illinois.

GOOD REBUILT condensing units or compressors for all applications; also compressor and valve plate exchanges and parts sales. For quotation, give information on horse-power, voltage, phase, temperature and other data. Send for catalog on compressor exchanges. UNITED REFRIGERATION CORPORATION, 514 W. 12th Street, Los Angeles 15, California.

BUSINESS OPPORTUNITIES

SUCCESSFUL EXPANDING air conditioning refrigeration and heating business, Washington, D. C. area. Guaranteed remunerative service operation. Sales and installation just starting to move. Dealership and financing set-up available. Credit well established. Two trucks and shop. Presently one man operation. A moneymaker. LESLIE DANKER, 2921 Mosby St., Alexandria, Virginia. KI 8-5055.

MISCELLANEOUS

GOT PROBLEMS. If they involve technical matters in refrigeration, the odds are excellent you'll find the answers you need in Paul Reed's "Refrigeration Problems and Their Solution." Five volumes J-1 through J-5. Fully illustrated. Only $1.50 each. See your wholesaler or order from BUSINESS NEWS PUBLISHING CO., Dept. B, 450 W. Fort, Detroit 26, Mich.

THE MASTER SERVICE MANUALS - - -

— — — and other books of the Refrigeration Library are depended upon as textbooks in trade schools from coast to coast.

BUSINESS NEWS PUBLISHING CO., DETROIT

Room Fan-Coil Certification Plan--

(Continued from Page 1, Col. 5)

ard was accomplished under direction of the Joint Engineering Committee on Fan-Coil Units, set up by the Coordinating Committee, and this joint committee will continue to function as a technical advisory committee.

The Fan-Coil Rating Committee, also established under the Coordinating Committee, is responsible for carrying out the intent of the program, including the procedures of examining certification data and approving ratings on the basis of check-testing of sample units; intepreting policy as set forth in the standard and in the license agreement which each participating manufacturer will sign; and otherwise assisting in operation of the program.

The Fan-Coil Rating Committee is made up of the chief technical staff officers of the three associations, under chairmanship of the chief engineer of ARI.

Manufacturers representing more than 80% of the production volume of fan-coil units have signed agreements to participate in the program, it was stated.

Participants Need Not Belong To Any of Sponsoring Groups

Participants in the program need not be members of any of the three sponsoring organizations to obtain Approved Standard Ratings for their products.

The program requires that a license agreement be executed between the manufacturer and ARI, which specifies the conditions of participation and authorizes publication of approved standard ratings and display of the certification symbol by the licensee when the conditions of participation have been satisfied. Both cooling and and heating capacity ratings are to be expressed in Btu per hour (Btuh).

Periodic Directories To Keep Listings Current

Certified ratings will be published in a "Directory of Certified Room Fan-Coil Air-Conditioners," similar to the ARI "Directory of Certified Unitary Air-Conditioners," to be issued periodically so that ratings may be kept up-to-date.

Participation in this program requires, in addition to the manufacturer's own testing of his product prior to certification, pre-certification check testing at an independent laboratory of equipment proposed for certification. During the period between now and October, 1962, participating manufacturers will be accomplishing this pre-certification testing, it was noted.

Random Testing Planned

In addition to the pre-testing of units, the Fan-Coil Certification Program provides for random testing by an independent laboratory of the units of participating manufacturers, as well as for testing by participants of the equipment of other participants, with results of all tests reported to the Fan-Coil Rating Committee.

The provisions for random testing and testing of competitors' units are similar to those in effect in the Unitary Certification Program.

No manufacturer or any other corporation, firm, or individual may publish approved standard ratings, or display the certification symbol on his products or in his literature, unless and until he has received written authorization from ARI, the announcement said.

A room fan-coil air conditioner (also referred to in the standard as a fan-coil unit) is defined as ". . . a factory-made assembly which provides the functions of circulation, cooling or cooling and heating, and filtering, of air, but which does not contain the source of cooling or heating. This device is normally designed for free delivery of air into a room, but may be applied with minimal ductwork having a static resistance not exceeding ¼-in. of water. This device may be designed for furred-in application, or with an enclosure for application within the conditioned space. This device is generally designed in sizes of less than 1,500 cfm air delivery."

Chairman of the Joint ARI-AMCA-IBR Liaison Committee which arranged for the cooperative development of the new standard and certification program is Stewart E. Lauer, former president and board chairman, York Corp.

Chairman of the Fan-Coil Coordinating Committee is L. N. Hunter of the Crane Co., Plumbing, Heating & Air Conditioning Group.

Members of the Coordinating Committee representing ARI are G. V. Bond, Carrier Air Conditioning Co.; Alan Decker, Dunham-Bush, Inc.; and G. G. Workinger, McQuay, Inc. Representatives of AMCA on the committee are W. R. Barnard, The Trane Co.; W. Greene, John J. Nesbitt, Inc.; and R. C. Niess, York Corp. IBR representatives are W. R. McMahon, Modine Mfg. Co.; C. G. Newton, Kritzer Radiant Coils; and J. P. Soule, American-Standard Plumbing & Heating Div.

Decker is chairman of the Joint Engineering Committee on Fan-Coil Units. Its members include Niess; ARI Chief Engineer Reed; E. L. Sartain, Modine Mfg. Co.; Albert Sheppard, AMCA chief engineer; and J. I. Woodworth, IBR administrative assistant.

Reed (chairman), Sheppard, and Woodworth comprise the Fan-Coil Rating Committee.

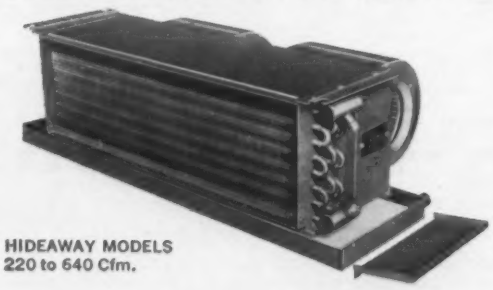
Companies which have signed contracts to participate in the program are:

Airtemp Div., Chrysler Corp.; American-Standard Industrial Div.; Carrier Air Conditioning Co.; Crane Co., Plumbing, Heating & Air Conditioning Group; Dunham-Bush, Inc.; Kritzer Radiant Coils, Inc.; Marlo Coil Co.; McQuay, Inc.; Modine Mfg. Co.; John J. Nesbitt, Inc.; The Trane Co.; United States Air Conditioning Co.; Warren Webster & Co., Inc.; Westinghouse Electric Corp.; Worthington Corp.; York Div., Borg-Warner Corp.

Room Fan-Coil Certification Symbol.

McQuay

individual room SEASONMAKERS



HIDEAWAY MODELS
220 to 640 Cfm.

FLOOR MODELS
220 to 1240 Cfm.

Your design plans may specify a free standing floor conditioner, or possibly floor units semi or fully recessed, and in some instances, closet or false ceiling installations or horizontal ceiling units mounted in the conditioned space—but, regardless of what your plans require, there is a McQuay Seasonmaker designed to meet your specifications. Four individual models, floor, basic, ceiling and hideaway styles in 24 sizes, with a complete accessory line for each style, offer you the versatility and flexibility required in modern design.

Before you specify or install, insist on comparing the McQuay Seasonmaker with all others for quality construction, quietness, appearance and performance. Your McQuay representative will give you complete Seasonmaker information, or write to McQuay, Inc., 1607 Broadway N.E., Minneapolis 13, Minnesota.

McQuay INC.

AIR CONDITIONING • HEATING • REFRIGERATION